A Consolidation of
FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

NOVEMBER 2, 1927

AMERICAN-LAFRANCE

"The Metropolitan"

In the "Metropolitan" is found everything that has made American-LaFrance fire apparatus famous — ample pumping capacity, power, reliability, compactness, accessibility and speed — blended with typical American-LaFrance thoroughness and care.

The "Metropolitan" serves every community with equal efficiency. Where fire hazards are many and complicated, the "Metropolitan's" capacity and power are essential. In the smaller community, where fire protection often depends on one or a few pieces of fire apparatus, the "Metropolitan" is indispensable because it contains that reserve power which, sooner or later, every community needs.

AMERICAN LAFRANCE FIRE ENGINE COMPANY, INC.
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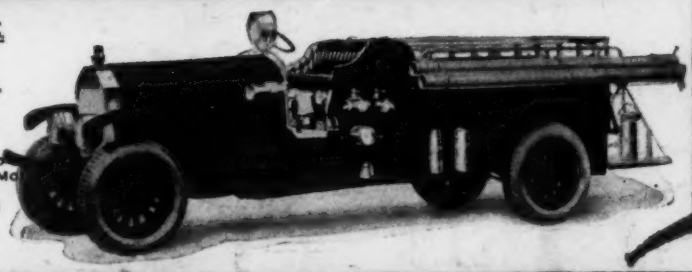
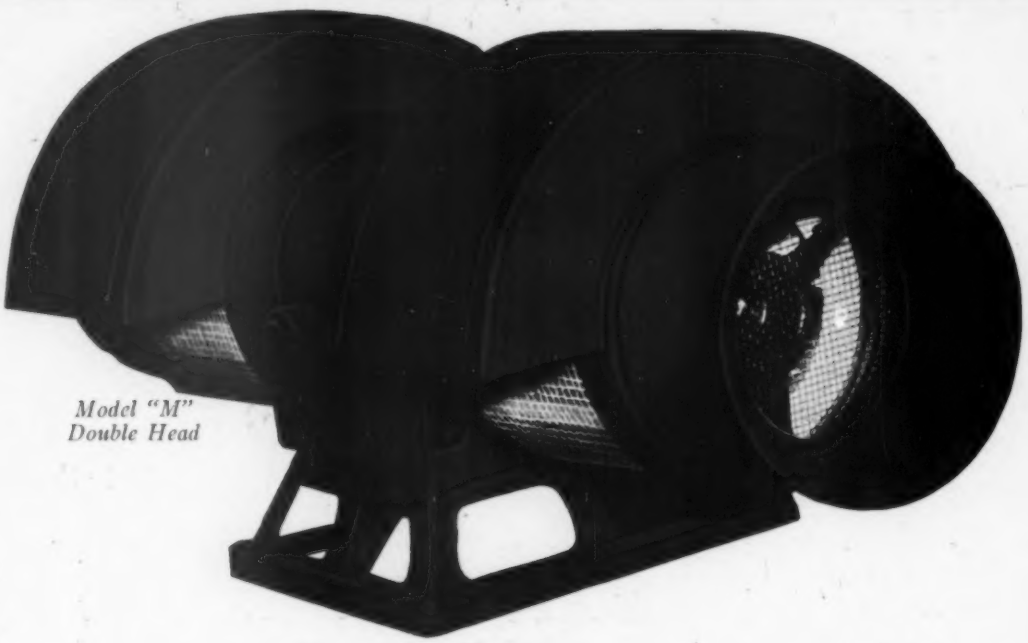
LOS ANGELES
PORTLAND ORE.

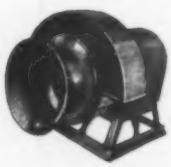




Model "M"
Double Head

MODEL "M"

The Most Efficient Sound Distributor Made



Model "M"
Single Head

The Model "M" is made with single and double head. The single head has a minimum sound radius of three-quarters to one mile; the double head from one to two miles.

A Broad Statement—But one we guarantee and stand ready to prove in competitive tests at any-time—anywhere.

100% Weather proof. May be operated by hand switch or from automatic control, which upon a touch of a button keeps Siren ranging over sound scale, for one, two or three minutes as desired, then automatically cuts out.

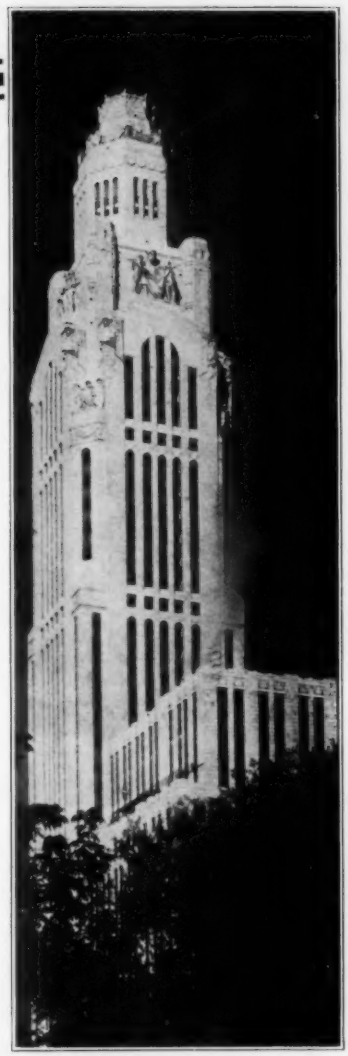
The ideal Fire Signal for your town.

Write for particulars and terms of purchase.

THE STERLING SIREN FIRE ALARM CO., INC.
61 Allen St., Rochester, N. Y.

STERLING

"They don't build 'em too high for us"

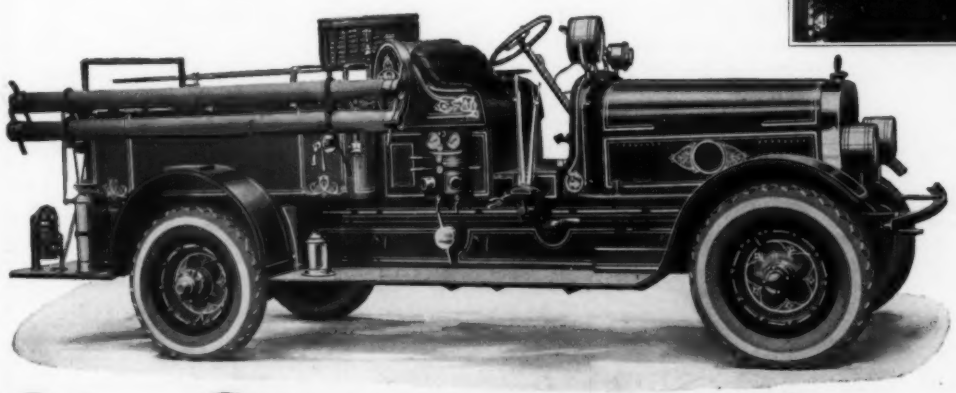


That's what Fire Chief Nice said when he concluded a fire test from the tower of the new American Insurance Union Citadel in Columbus, O., a height of 555.5 feet.

Neither do they build them too high for Seagrave apparatus. Two tests were made, one with a seven-year-old Seagrave Pumper, with a capacity of 1000 gallons a minute, the other with a 400-gallon Seagrave Suburbanite.

Using one hose line, the firemen were able to throw water from the tower to any point within a one-block radius.

For further information write for bulletin describing this test.



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The Journal of the Fire Protection Profession Since 1877

MEMBER
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FIRE ENGINEERING

A consolidation of FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

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TAKING a long whiff from his cigar, the lawyer said, "I'd like to see all advertising eliminated for two years."

¶ "Including," I asked, "all advertising of the law publishing firms, so that when a new book is put out a salesman will call to give an oral explanation and description?"

¶ "Oh, no," he qualified. "I call that announcing. I should want to get such announcements.

¶ He tried for a time to build up the argument that an informative announcement is something different from an advertisement, but I finally made him see that the informative announcement is what we call the highest type of modern advertising.

¶ Still, this indicates what work we have yet to do in order to show the more conservative type of man what advertising is.

¶ With every passing year there are more people who appreciate that *the right kind of advertising in the right place is a tremendously worth-while thing.* Right? Just look through the pages of FIRE ENGINEERING for proof!

The Publishers

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Contents of this issue copyrighted, 1927, by Case-Shepperd-Mann Publishing Corp., 225 W. 34th St., New York City
Entered as second class matter at the Post Office, Albany, N. Y., January 29, 1926, under the Act of March 3, 1879.

Ahrens-Fox

Tractor Ladder Trucks
in Manchester, New Hampshire

WHEN the Fire Department Officials of this progressive New England city received their first Ahrens-Fox Non-Aerial, Tractor Drawn Ladder Truck, they were so well pleased with its many desirable features that they placed an order for another one the very same day.

Other cities throughout the country are also finding this model, pictured above, remarkably efficient and dependable in actual service under all kinds of conditions.

This model was designed by experienced Ahrens-Fox fire apparatus engineers, is constructed of the highest grade materials obtainable, is built by experts with the aid of the most improved machinery in an up-to-date factory.

All in all, we honestly believe this ladder truck to represent the finest piece of apparatus of its type on the market today—and we shall be glad on request to send you complete information.

"Nothing is too good for fire service,
and nothing but the best will do."—Ahrens-Fox

The Ahrens-Fox Fire Engine Co.

"Builders of Quality Fire Apparatus"

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J. A. PRESCOTT
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Canadian Representatives, THE BICKLE FIRE ENGINE CO., Woodstock, Ontario
Pacific Northwest Representative, A. G. LONG CO., Portland, Ore.

"hereafter only Darling Hydrants will be purchased—"

The chief's decision to equip throughout with Darling Fire Hydrants was, of course, good news to the makers of these hydrants—but the real rejoicers were the firemen of his city.

Their experience with what Darlings they had, proved that a full complement of these quick-acting, full-flowing hydrants would mean a more efficient, dependable fire control system with no worries and less work.

Wherever Darling Gate Valves and Fire Hydrants are installed they have been praised for their positive operation and easy maintenance. Catalogue No. 14 is of interest to every fire chief or superintendent of water works. Send for it.

DARLING VALVE & MFG. CO.

NEW YORK WILLIAMSPORT, PA. CHICAGO
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DARLING

GATE VALVES—FIRE HYDRANTS

The *Childs* "Thoroughbred" Heavy Duty Apparatus calls at Kansas City headquarters en route from Manchester, N. H., to New Orleans

The "THOROUGHBRED" comes through!

An 8000-mile demonstration run that equalled 10 years of ordinary service

FROM Manchester, N. H., to New York — Cleveland — Dayton — Chicago — Minneapolis — Omaha — Kansas City — New Orleans. Frequent demonstrations en route — pumping from creeks, dead-end hydrants, mill ponds.

And at the end of this severe 8000-mile tour the *Childs* "Thoroughbred" underwent a 12-hour Underwriters pumping test well over rated capacity.

"Heavy Duty" means something as applied to this apparatus!

And the "Thoroughbred" rates just as high in every other respect — quick getaway, speed on the road, accessibility of equipment, handsome appearance. Our literature tells the whole story.

Foamite-Childs Corporation, Fire Protection Engineers and Manufacturers, 380 Turner Street, Utica, New York. Sales and Engineering Representatives in all leading cities. Foamite-Childs of Canada, Ltd., Toronto, Ontario.

Foamite-Childs Protection

A Complete Engineering Service

Against Fire

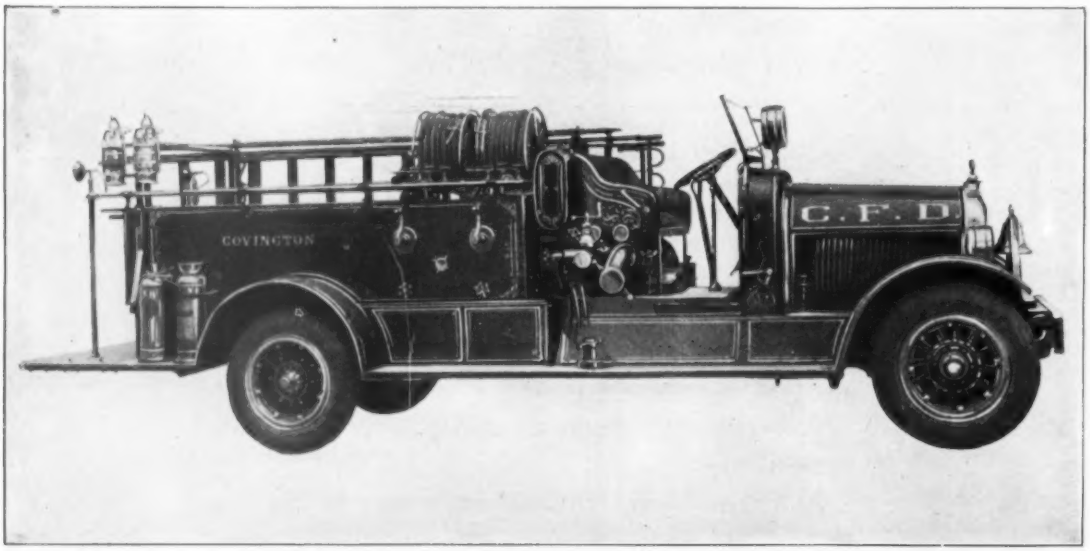
Always in the Lead—DELUGE
now presents an Improved Model

YEARS ago DELUGE was the first to introduce a specially designed fire truck under 600 gallon capacity. The result was The DELUGE Master Fire Fighter, equal in efficiency and design to the large capacity pumpers.

DELUGE was first to design an all-bronze Rotary Fire Pump. This pump, today, leads all in simplicity of operation, long efficiency and performance.

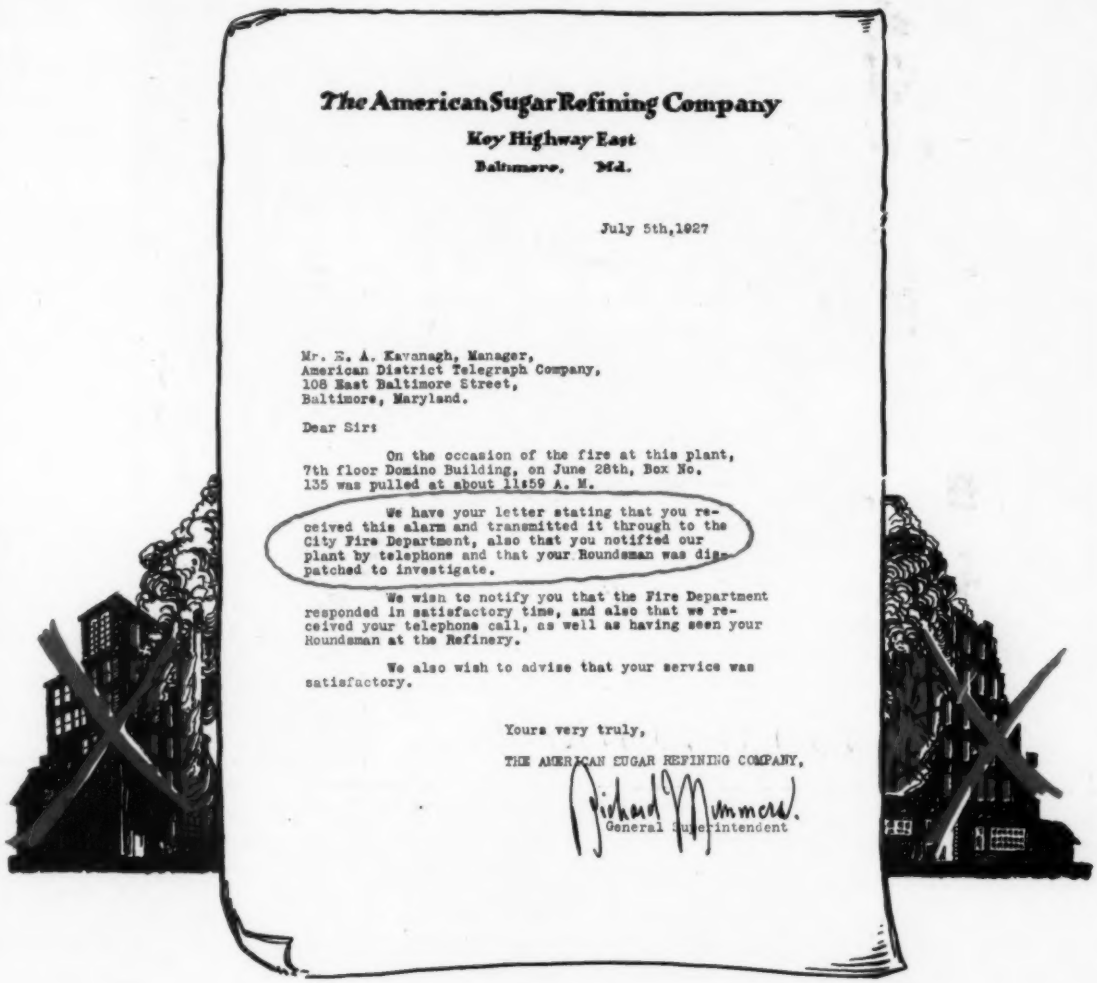
Below you see the latest, improved model DELUGE Master Fire Fighter. As pleasing to the eye as any modern motor car — strong, sturdy, powerful — complete protection for your city.

DELUGE meets the best competition on any basis. Some very good territory is open for sales connections. Write, if interested.



"DELUGE"
MASTER FIRE FIGHTER

Built by THE PROSPECT FIRE ENGINE COMPANY, *Prospect, Ohio*


The American Sugar Refining Company
Key Highway East
Baltimore, Md.
July 5th,1927
Mr. E. A. Kavanagh, Manager,
American District Telegraph Company,
108 East Baltimore Street,
Baltimore, Maryland.
Dear Sir:
On the occasion of the fire at this plant, 7th floor Domino Building, on June 28th, Box No. 135 was pulled at about 11:59 A. M.
We have your letter stating that you received this alarm and transmitted it through to the City Fire Department, also that you notified our plant by telephone and that your Roundsman was dispatched to investigate.
We wish to notify you that the Fire Department responded in satisfactory time, and also that we received your telephone call, as well as having seen your Roundsman at the Refinery.
We also wish to advise that your service was satisfactory.
Yours very truly,
THE AMERICAN SUGAR REFINING COMPANY,
General Superintendent

A. D. T. SUPERVISION

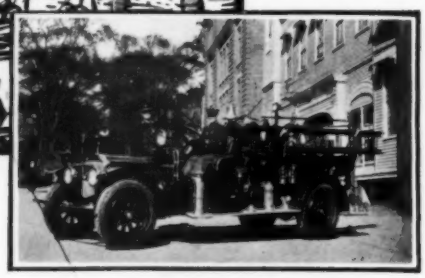
keeps fire loss at minimum. It protects adequately—by preventing big fires. The strict, unceasing supervision of equipment insures unfailing service at all times. In effectiveness of supervision and maintenance A. D. T. Protection Services are unsurpassed.

Write for further information

PROTECTION A.D.T. SERVICES

CONTROLLED COMPANIES

AMERICAN DISTRICT TELEGRAPH CO.
183 Varick Street, New York



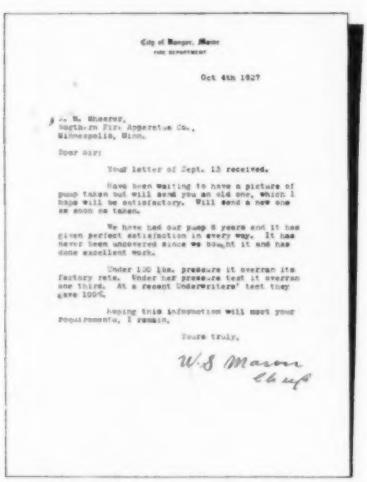
THE GOOD OLD DAYS

Heralded by melodious toots, Torrent Engine No. 1 careened over the cobblestoned streets of Greenwich, Connecticut. Manpower pulled it, and when the fire was reached (if at all) volunteers fought for places on the pump handle. This staunch protector of property and lives threw about four gallons per minute, on the spectators, on the firemen, and on the fire. Excitement and hope prevailed, but the odds were with the fire. When it was over, usually blackened stone walls enclosed a gutted home. This was in 1770.

A Northern Rotary Pump built into a White chassis has been serving the city of Bangor, Maine, since 1919. Read Chief Mason's letter—a tribute to the pump's stamina and dependability. Northerns are built to give far more service than the most active fire department will ever require. Continuous 24-hour a day performance in industrial uses has proved this over and over again.

Northern Pumps are used exclusively by thirteen recognized manufacturers of fire apparatus. Specify a Northern on your new equipment —you may safely expect it to outlast the chassis.

A Northern Rotary Pump on a White chassis, purchased in 1919 by the city of Bangor, Maine.



City of Bangor, Maine
FIRE DEPARTMENT

Oct 4th 1927

W. H. Wheeler,
Northern Fire Apparatus Co.,
Minneapolis, Minn.

Dear Sir:

Your letter of Sept. 13 received.

Have been waiting to have a picture of pump taken but will send you an old one, which I hope will be satisfactory. Will send a new one as soon as taken.

We have had our pump 8 years and it has given perfect satisfaction in every way. It has never been whereverd since we bought it and has done excellent work.

Under 130 lbs. pressure it overran its factory rate. Under 240 pressure test it overran one third. At a recent Underwriters' test they gave 100%.

Hoping this information will meet your requirements, I remain,

Yours truly,

W. S. Mason
Chief

Northern Fire Apparatus Co.

900 Eighteenth Ave. N. E.

Minneapolis Minnesota

NORTHERN ROTARY PUMPS

"MORE GALLONS PER HORSE POWER"

FIRE ENGINEERING

(A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER)

The Journal of the Fire Protection Profession

VOLUME LXXX NOVEMBER 2, 1927 NUMBER 22

Drills and Training—A General Need

Smallest Department Requires Them as Well as Largest Unit—State Tournaments Useful—Need of Officers' Schools

By CHIEF JOHN J. T. WALDRON, Deputy Chief, New York Fire Department *

IT is just as important for the volunteer fire department of a village to keep up-to-the-minute in matters of fire-fighting as the largest paid department. This can only be done by keeping eternally at it, through drills and training. Chief Waldron shows how best this can be done by all fire departments, both large and small, in the following practical paper:

Deputy Chief John J. T. Waldron, New York City

To achieve a better understanding as to my thoughts and ideas relative to fire departments, and to establish the broad purpose of this paper, let me state at the outset that I can conceive no distinction between a "volunteer," a "part-paid," or a "full-paid" fireman. To my mind, they are all firemen in the real sense of that term.

The community in which the fire department operates will determine whether it be a volunteer or paid organization. In the smaller towns, a volunteer organization may suffice, but as the community grows in size and its citizens devote more of their interest to their various specific callings, the employment of a paid fire department is a natural sequence.

Whether the department is one in name only or a real fire department is a matter of organization, discipline and training, all of which factors depends largely upon the personality and purpose of the chief of the fire department.

The standard system of drills and training should be broad in scope, yet sufficiently detailed in outline to permit its application to any department regardless of its size.

Remember, a system of drills and training may be applied without contemplating a "drill tower" or even a "drill yard" as may exist in large cities. The real purpose of drills and training is to educate the members of a department, transmit to them standard methods of operation, and to bring to the department standard and recognized practices in fire prevention and fire fighting. Much of such instruction and training can be done in the regular company quarters of any fire department.

Scope of Fire Department Training

The scope of training should include:

(a) Preliminary training of new men after entrance into the service.
(b) Regular weekly drill of companies as units.
(c) Annual competition between companies in the department.
(d) Training and education of newly promoted officers in their respective ranks.

An officer, fitted by experience, training and temperament, should be designated and assigned as "Drill Master" in the School for Instruction for Firemen. Newly appointed members should be required to attend regular sessions at such school until deemed proficient in the rudimentary requirements of the business. Where it is not possible to have a regular drill yard for such instruction—and as a matter of fact most of the so-called drill yards serve mainly for ladder and rescue work—a room at Fire Headquarters will suffice for lectures and instruction, and any company quarters will be sufficient for practical work in handling of tools, raising ladders, motor operation, etc.

Program of Company Drill and Instruction

A program of general drill and instruction for companies should be adopted and every company should be required to devote one period of not less than one hour weekly for such drill. These drills and instruction should be conducted in company quarters under the supervision of the Commanding Officer of the company.

All companies of the department should be required to report at a designated place and to perform a scheduled list of practical fire operations at least once each year under the supervision of the Drill Master or the Chief of Department. The time required to complete such operations by each company should be fairly and squarely recorded. Where a company fails to complete all operations within a reasonable time, such unit should be required to again attend the School after a short time for a second trial.

Use of State Tournaments

Where state tournaments are held, the program of operations to be performed should be based on a standard schedule sim-

* Instructor in New York Fire College. From a paper read before the quarterly meeting of the New Jersey State Fire Chiefs' Association.

"DON'T make the error of believing that because a department is small no drill is needed. It is just as essential for the small department to drill regularly as it is for the larger department, if you wish to have a real organization."

ilar to those used in the company school through the State. At present, state tournaments are held in some of the counties among the volunteer fire departments, and I believe it might be a good practice to have the best companies in each of the paid fire departments of a State attend and compete in such tournaments. If possible, the annual convention of the State Association of Fire Chiefs might include one day for such tournament. If not possible to hold the tournament each year, then every second year might be used for this work. The tournament as a feature of the convention would be an attractive feature for many citizens and could be used with commercial advantage to the state organization as well as serving to display the proficiency of the various fire departments.

Officers' School Should be Established

An "Officers' School" which will continue the interest and education of newly promoted officers should be established in the larger departments. In such school, the ranking officers of the department should serve as Instructors, giving to the younger officers the benefit of their knowledge and experience. In smaller departments, quarterly conferences should be held regularly each year at which the Chief of Department should discuss his policies and hold discussions with his officers to the end that the efficiency of the department may be constantly improved.

Schedule for Drilling of Companies

A committee of officers of this State Association should be appointed to submit to the organization a detailed schedule of operations and instruction work for the drilling of companies, and such schedule should include the following:

Training and practice in the use of all tools and appliances;
Stretching hose in various layouts—single lines, siamesed lines, branch lines from gate connections, etc.
Use of nozzles of various sizes;
Carrying, raising, lowering and placing of portable ground rest ladders;
Placing, raising and lowering of aerial ladders on trucks;
Motor operation, propelling and pumping instruction;
Instruction in ventilation—opening windows, removal of coverings on shafts, stairways, etc.
Operation of motor pumping engines, both when connected to hydrants and taking suction from rivers, creeks or wells;
Use of streams from chemical engines;
Use of all portable fire extinguishing equipment;
Salvage work—spreading covers, limiting spread of water, draining floors and cellars, etc.
Instruction in signals, alarms, and telegraph;
Placing of apparatus at fires.
Methods of computing pressures, discharge, friction losses and incidental problems in fire operations;
Instruction in design, arrangement and sources of water supply for sprinkler and standpipe equipment in buildings.

Use of Maps or Block Plans

The drill and instruction in company quarters should include discussions tending to familiarize all members with the method of attack at all fires, particularly with those which may occur in premises in the company district or town. One of the best methods to accomplish this is to have on hand in each company quarters a map or block plan of all the buildings in the district. Such plan should show the location, size, and general construction of the buildings, exposures, etc., and if possible the stairways and other entrances to premises, street water mains and hydrants, standpipe and sprinkler equipments and controls of water supply to same.

In the case of the larger cities, such maps can be obtained from several map companies which prepare same for real estate or insurance purposes. In the smaller communities maps may be prepared by the fire department after surveys or inspection, and from information obtainable in Building and Tax Departments.

Hypothetical fires can be fought in various premises at each of the weekly drills in company quarters and all members will be prepared when actual fires occur.

Regular Drills Essential for Smallest Department

Don't make the error of believing because a department is small no drill is needed. It is just as essential for the small department to drill regularly as it for the larger department if you wish to have a real organization.

The small league baseball team needs "morning practice" as well as the major league team, if games are to be won.

Box 52 Association Holds Meeting—The first fall meeting of the Box 52 Association of Boston, Mass., was held on September 21 with President George C. Ambrose, presiding. Plans were made for the coming year.

CHIEF EVANS OF NEW ORLEANS CELEBRATES 35 YEARS OF SERVICE

Honored by Dinner and Presented with Suitcase, Handbag and Traveling Set —Chief's Advancement in Department

FRIENDS and city officials of New Orleans commemorated Chief John M. Evans' thirty-five years of service by a testimonial dinner.

The dinner was held in a bungalow at Edgelake. The place was decorated with minature lanterns, and equipped with a siren and bell to give the fire department touch. The noise from these greeted the chief as he entered the dining room.

Chief John M. Evans

Mayor Arthur J. O'Keefe presented Chief Evans with a suitcase, handbag and traveling set as a gift from his many friends.

Thirty-five years is a long time ago but Chief Evans remembers distinctly the time when he entered the fire department. Then the men received $55 a month and when the chief received $65, he married. The two-platoon system was an ideal condition that few believed would materialize. The men worked twenty-four hours a day with three hours off for meals and a 12-hour leave three times a month.

Men are always finding excuses for their work. In the old days, the chief said, "We used to sit around the stove in the old station and talk about what a great job we'd have if only we didn't have to care for the horses. At that time, when we came back from a fire, we had to walk the horses up and down a number of times because they were sweating, and we had to care for the animals before we thought of taking off our wet breeches. But even at that, we loved the horses.

"I always wanted to be a fireman," continued the chief. He was but twenty-six years old when he was promoted to captain, at that time the youngest captain in the service. He had to wait for ten years before he was promoted to assistant chief. This promotion came because Chief O'Connor, New Orleans first paid fire chief, retired.

In telling of his promotion, to chief, Evans said, "I was standing at the corner of Canal and Bourbon street talking to some of the boys and we saw the little fellows selling newspapers. They were shouting all about the new chief. One of them jerked his paper towards me and asked if I didn't want a paper. 'Gee, mister, buy a paper! Don't you want to see your picture in the paper?'"

And that's how he knew that he was promoted to the highest office in the fire department.

Chief Evans is first vice-president of the International Association of Fire Chiefs. That means, in the normal course of events, he will be president next year following Chief Davis of Philadelphia. He will be one of the youngest chiefs thus elected to the office and the first New Orleans chief to attain the chair since Chief O'Connor in 1883.

Reception Tendered Chief Ricker

A reception in honor of Chief Eugene T. Ricker, of Biddeford, Me., was given by P. Hildreth Parker, of the Box 52 Association, on October 5, in Belmont, Mass. Among those attending the party, which was held in Mr. Parker's home on Benjamin Road, were Chief James M. Casey, of Cambridge; Chief Selden R. Allen, of Brookline; Chief John W. O'Hearn, of Watertown; Chief W. H. Hill, of Belmont; William B. Corcoran, and Bartlett Tyler.

HARRY BELKNAP.

South Gate, Cal., to Have Paid Chief—South Gate, Cal., is to employ a chief at a salary of $175 a month.

No Fire Doors—Plant Destroyed

Fire Goes Through Openings in Walls in Basement and Entire Building Is Involved—Fire Spreads

A FIRE in an automobile top plant is no mean task for the department, but when there are present unusual hazards such as a lot of soft coal, celluloid and lacquer, together with serious structural hazards, the department has a real job on its hands. Such was the situation encountered in the fire described below.

The city in which this fire occurred had a population of about 35,000, and is located in the central part of the country. The water supply was good, though the pressure at the hydrants was insufficient for hydrant streams. Eight hydrants were within easy reach.

The Fire Department

The fire department consists of four engine companies, three equipped with 700-gallon triple combination machines, and one with a 500-gallon quadruple combination (pumper, hose car, chemical truck and city service ladder truck). Also a ladder company equipped with a city service truck.

For identification, company equipment is as follows: Engine Co. No. 1, 700 gallon triple combination; Engine Co. No. 2, 700 gallon triple combination; Engine Co. No. 3, 700 gallon triple combination; Engine Co. No. 4, 500 gallon quadruple combination; Ladder Co. No. 1, city service truck.

Response to Alarms

Response to alarms from the neighborhood of the fire is as follows: First Alarm, Engine Companies Nos. 1 and 2; Truck Co. No. 1.

General Alarm brings out the balance of the apparatus.

Description of Property Involved

The property immediately involved in the fire included three two-story adjoining buildings used as an auto top factory, stone side-walls, brick front and rear, wooden construction within; a four-story wholesale grocery and produce warehouse; a four-story brick and joist building used as an overall factory. All of these buildings are indicated on the sketch herewith.

Contents of Buildings

The auto top factory, in which the fire started and gained its main headway, was engaged in the manufacture of open auto tops, side curtains and spare tire covers. In the basement of Building A was a large quantity of soft coal, used in connection with heating the building and generating steam for factory purposes. In this same basement were also quantities of lacquer and celluloid in storage, duck canvas, wood stock and small metal parts.

In the basement of Building B fabricating and machine work on auto top braces were carried on; unworked and finished materials were also stored on this floor, including wooden top-braces.

In the basement of Building C all finishing, including lacquering, was done. Here the finished parts were stocked awaiting assembly.

Basements of A, B and C were connected by doorways which were not equipped with doors. And this was the reason for the great and rapid spread of the fire.

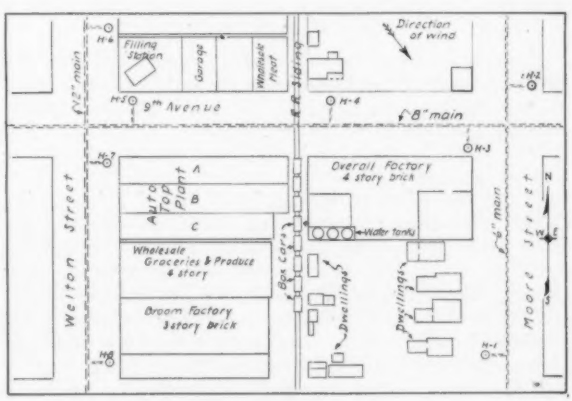
The first and second floors of all three buildings were utilized in cutting cloth for tops, sewing, upholstering and mounting the same. Finished tops, both in bulk and in crates were present in large quantities in all three buildings. Most of the canvas, or duck, employed was stored on the top floor of Building A, where it was drawn on whenever needed.

The wholesale grocery and produce warehouse was filled with the usual line of groceries and storable vegetables.

The overall factory was occupied on the various floors by cutting tables, sewing machines and other equipment found in such establishments. There were also present many finished garments, both in bulk and in cases. Basement was used as storage for shipping crates.

The Fire

Fire is believed to have started either from spontaneous ignition in the coal, or from a gas heater used in heating a dry oven. It was discovered about 2 a. m., and at the time of discovery it had spread through the three basements and had risen by stairway to the first and second floors of Building A. Both Buildings B



and C were heavily charged with smoke. The policeman who discovered the blaze immediately transmitted a box alarm which was answered by Engine Cos. Nos. 1 and 2 and Truck Co. No. 1, together with the chief of the department.

When the Chief arrived, it was apparent that the auto top plant was going to be fully involved before effective work could be done. Wind was blowing from the northwest, which made the exposures to the East and South dangerous.

How the Fire Was Fought

Immediately upon his arrival, the Chief placed Engine Co. No. 1 at Hydrant 7 and ordered two lines stretched to the ground floors of Buildings A and B respectively.

Engine 2 was placed at Hydrant 4 and two lines stretched, one going to the rear of Building A and the other to the 9th avenue side of Building C. Members of Truck Co. No. 1 opened up for the hose lines and

also assisted in getting lines from Engine 2 into operation.

By the time the last two lines were in operation, fire began showing itself on the first floors of B and C—too far back to be reached by the street streams. About this time the Chief sent in a general alarm, bringing out Engine Cos. Nos. 3 and 4.

Attempts were made to get the lines at the Welton St. side of the building into the plant to operate on the fire at the rear of the ground floor, but smoke was too heavy, and the fumes from the lacquer forced the men to back out and work from the outside.

By the time the apparatus on the general alarm came in, fire had fully involved the rear of both B and C on the ground floor, and was also extending itself to the top floors of these two buildings. Engine 3 was placed at Hydrant 8 and two lines stretched, one to operate into the second floor of A from a ladder; the other to the second floor of B by way of ladder. Engine 4 was placed at Hydrant 3 and a single line laid to the rear of the rear of C.

These positions were held for a few minutes until the intensity of the fire forced both lines operating at the rear of fire buildings to withdraw. These two lines were then put in operation on C from the 9th Ave. side.

Although the lines seemed to be holding the fire at the front of A, B and C, it continued to increase at the rear of these buildings. Without previous warning fire jumped to the third floor of the overall factory at the east of the plant, having either broken the window panes, or else found them broken. The row of box card between the fire building and the overall factory had not at the time taken fire, which put the department off its guard.

The Fire Spreads

Fire on entering the overall factory reached the long rows of sewing machines between which, in a sort of cloth troughs, were long, loosely piled stacks of partly finished garments. Down these rows the fire travelled quickly, and by the time a line was sent up the whole floor was ablaze.

From this point on, the fire department fought a losing fight. The most valiant efforts could not prevent fire from entering the other floors of the overall factory from buildings A, B and C. In the meantime these latter three buildings developed into a seething mass of flames which finally involved the wholesale grocery and produce building to the South—entering this building through windows which overlooked the auto top plant.

The overall factory, top plant and warehouse were all ablaze at the worst stage of the fire. The department finally concentrated its efforts to holding the fire from extending to the brush and broom plant to the South of the warehouse, and to the dwellings South of the overall factory. In this the department was successful.

As it was, the fire was not under control until it had completely destroyed the three plants noted above.

The Editor's ideas on the handling of this fire will be given in the next issue of this journal.

Cheyenne, Wyo., to Add New Apparatus—A two ton truck will be purchased for Cheyenne, Wyo., to carry hose and chemicals.

Norwood, Mass., Adds Two New Pieces—A 750-gallon Seagrave pumper has been added to the department of the town of Norwood, Mass. Also a 250-gallon Northern pumper mounted on a Reo speed-wagon chassis. This carries seven hundred feet of 1½-inch hose and a number of portable extinguishers for fighting forest and grass fires. This apparatus was made by the Maxim Motor Company of Middleboro, Mass. John J. Hannigan is chief of the fire department.

NEW YORK FIREMEN CAMPAIGN FOR EIGHT-HOUR WORKING DAY

Chief Kenlon Asks for Time to Consider Plan—Change Advocated for General Welfare and Health of Firemen—Some Want More Pay

By WILLIAM JEROME DALY

THE campaign of the Uniformed Firemen's Association comprising 4,900 firemen in New York City, for local legislation by which they hope to change working conditions from a two platoon system of nine and fifteen hours service to a system of eight hours a day, reached the point last week where at the committee on local laws of the Board of Aldermen, which is the lower house of the Municipal Assembly, held a public hearing in the Aldermanic Chamber at City Hall.

Chief John Kenlon

Several hundred firemen attended. The proponents argued that the eight hour day was an established American custom, that it was humane, that firemen should not be required to work twelve hours daily, that eight hours would give them more time at home and that other crafts and trades were enjoying an eight hour system.

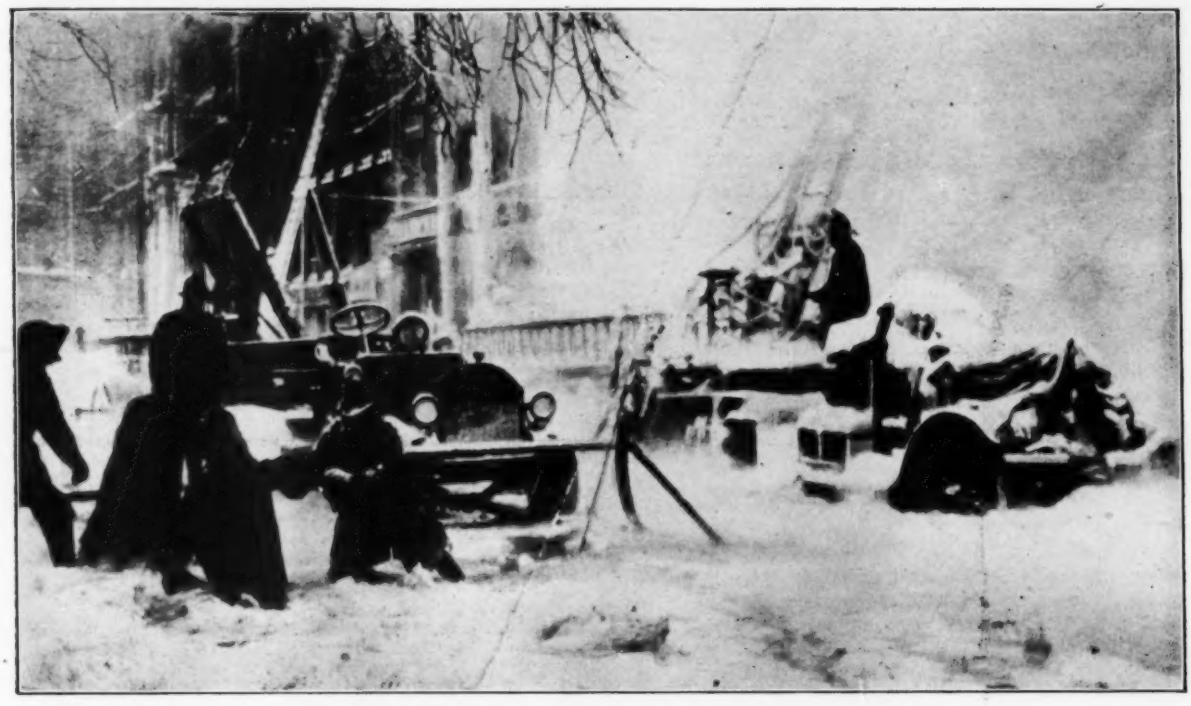
There was no direct opposition to the measure, although Fire Chief John Kenlon, who was sent to the meeting by Fire Commissioner John J. Dorman, declared that while he was in favor of anything which would be beneficial to the men, he was not sure, however, that the eight hour bill would be for the best interests of the fire service.

The bill provides that firemen below the rank of Chief of Department and policemen below the rank of Captain shall not be on duty more than eight hours a day. The police now have three platoons, but they work two extra tours of eight hours each week on reserve. The bill was introduced last spring, but it made little progress until a week ago when the committee held the first public hearing.

Joseph J. O'Reilly, joint secretary of the police and firemens organizations spoke in favor of the measure, citing the conditions under which the firemen work at present. He said the firemen get one full day off every sixth day, but they have to work a full day for that. He declared that at least three Fire Department medical officers have branded the present two platoon system as unhealthy for the men and inimical to their well-being, for firemen cook and eat in quarters and as a result become victims of smoke at fires due to their filled stomachs; that the department will require at least 1,500 more firemen to make an eight hour day possible; that the department at present is badly undermanned; that the people of the city want the firemen to have an eight hour system and that there is no better time to discuss the measure than on the eve of an approaching election.

Fireman Antion Holterback, president of the Uniformed Firemens Association said the firemen were not at home enough. He said that an eight hour day will have a beneficial effect on the men such as the two platoon system did. He brought out that he is quartered in a fire house where the dormitory is 8 x 16 feet with eight beds in it. This station had no facilities for baths, and the men have to sleep with four blankets over them at night. This is detrimental to their health. A majority of the fire stations are in poor sanitary condition, that regardless of occupation, no man should do such work as requires disturbance to his sleep by a gong or bell. With the installation of the eight hour day system the beds in the fire houses should be removed and a great deal of the domestic dissention at home would be ended because the father of the house would be there to keep peace and order among the children.

(*Continued on page* 1133)



Snow Removal Would Have Avoided Conditions Such as This

Snow Removal Speeds Up Fire Apparatus

Modern Methods Adopted to Clear Streets of Cities in Heavy Winter Weather—Types of Machines Used

By CHARLES W. GEIGER, San Francisco, Cal.

FIRE apparatus are often badly hampered, slowed down and occasionally even blocked in answering alarms of fire by heavy snows in city streets. It is therefore of the utmost importance from a fire protection standpoint that the thoroughfares be quickly cleared in time of heavy storms. The following article tells of modern methods of accomplishing this feat in rapid time:

City snow removal problems differ materially from those encountered by highway officials. Larger and more concentrated areas must be cleared; the snow, in most cases, must be hauled away, and speed is the first essential.

Practically all city traffic—including fire departments—is now motorized, and city officials agree that without modern mechanical equipment, the snow removal problem would be practically hopeless under present conditions. In addition to caterpillar tractors and motor trucks, with plows of various types, several other devices are used. Frequently the presence of ice on the streets complicates the situation, requiring the use of special equipment.

Chief Emphasizes Need of Snow Removal

The fire protection value of city snow removal is emphasized by many authorities, but none has more heartily endorsed the work than Chief Eugene Barrows of the Bangor, Me., Fire Department, who says:

"In the winter months we have our heaviest fire losses. Since our streets have been cleared of snow I have had no difficulty in operating my motor apparatus at all times. It not only benefited this city, but also the surrounding towns, which sometimes call on us for help. With the highways cleared, we have been able to reach these distant fires without trouble."

"The closest co-ordination between state, county and city should be effected at once," suggests the American Automobile Association. "If the routes are cleared to the city limits, and city streets left mired in snow, the value of state and county work is greatly lessened. City street-cleaning departments should enlist the organized co-operation of city fire and garbage-removing departments. Blizzards should be treated as an emergency, with ample plans made well in advance."

Organization of Work Must be Thorough

Organization for snow removal must be thorough. There must be a responsible leader, of course, and every member of the organization must be imbued with the spirit of battle; for superhuman efforts and long hours of work are expected of every soldier in the fight against the snow.

Methods Employed in New York

It may be of interest to know something of the mechanical methods employed in New York City. After the streets are plowed the snow is placed at the street-side in piles four or five feet in height. The work of removing these piles is let to contractors. Some of the

contractors during the past season used cranes, mounted on motor trucks.

Mechanical loaders, however, have met with great popularity. According to the American Automobile Association, the loader is able to do the work of fifty shovelers at a considerable saving of time and expense.

Removing Ice from Streets

Ice frequently forms on city streets to a depth of three to six inches. Soon it becomes rough and rutted—a

Left, Caterpillar Driven Grader in Operation Removing Snow From City Streets. Right, City Owned Caterpillar Drawn Machine in Minneapolis for Scarifying Ice on City Streets

serious menace to traffic and pavement. Until the advent of the caterpillar tractor and special implements, great gangs of laborers were employed with pick and shovel to remove the ice. Modern methods save time and money.

A cleated road roller for breaking up ice was used successfully in Waltham, Mass., according to the American Automobile Association. Four-inch angle-iron cleats were attached to the front wheels and 2½-inch "T"-irons were bent around the rear wheels. The results exceeded expectations. After the ice had been broken up, plows were used to push the loosened materials aside.

Other cities employ heavy road scarifiers for breaking the ice coating. Various makes of one-man maintainers, mounted on a 2-ton caterpillar and equipped with a scarifier or blade, or both, recently have become very popular for ice and snow removal in cities.

Clearing the Sidewalks

Many cities have come to the realization that removal of snow from sidewalks is an extremely important matter, and small caterpillar tractors have been used successfully in many places, including Montreal, Can., for this type of work. Manchester, N. H., according to H. S. R. McCurdy, Surveyor, Department of Highways, maintains sixty small V-shaped wooden plows for sidewalk clearing.

Heavy Duty Machines for Hill Work

In Manchester, as in other cities, a caterpillar tractor and heavy-duty plow have been found essential for hill streets, for opening up heavy drifts and for clearing outlying roads in time of heavy snowfalls.

Two caterpillars, with plows, are maintained by the city of Portland, Me., and according to Edward M. Hunt, Commissioner of Public Works:

"During and after one snowstorm last winter, the two outfits worked continuously day and night for seventy-two hours. The result of our snow removal work was that all the principal roadways of Portland were open and usable by motor vehicles practically all the time during the winter."

Elizabeth, N. J., Receives Pumper—A Seagrave pumper has been delivered to Elizabeth, N. J.

CHICAGO COMMITTEE ON FIRE ALARMS SIZES UP NEW YORK CITY'S SYSTEM

Delegation from the Lake City Is Guest of Commissioner Dorman in Tour of New York's Fire Alarm System—To Visit Other Cities

By WM. JEROME DALY

THE City of Chicago, Ill., which has about $6,000,000 to spend on a modern fire alarm plant, sent its aldermen and police officials who are members of the Committee on Gas, Oil and Electricity to visit some of the metropolitan cities of the East last week, to make a survey of the police and fire telegraph systems with a view to reporting to Mayor Thompson their findings.

Alderman Jacob M. Arvey, chairman of the committee told the writer that Chicago intends to increase its number of fire alarm boxes from 2,600 to 13,000 and therefore has adopted a slogan—*"Run a Block."*

Some of the cities included in the itinerary were in addition to New York, the cities of Boston, Montreal, Toronto, Detroit and others. The Aldermen made their first stop in New York. In addition to Alderman Arvey, were Deputy Fire Commissioner Edward A. Maloney, Deputy Fire Chief Michael J. Corrigan, Electrical Superintendent N. Banks Cregier, City Clerk Patrick Sheridan Smith, and Chief of Fire Alarm Telegraph James P. Crowley.

Fire Commissioner John J. Dorman met the delegation at Fire Headquarters and Superintendent Michael R. Brennan of the New York Police Telegraph Bureau met them at Police Headquarters. Commissioner Dorman in greeting the delegation told the members that New York City has a most modern fire alarm plant, that there are 6,200 fire alarm boxes in this city, 13,200 miles of underground wires and 1,862 miles of aerial wires, that the fire alarm plant in the five boroughs of the greater city represents an outlay of $4,087,894, that there are 1,030 fire alarm box circuits, that the fire alarm service requires an annual payroll of $600,000, for 237 employees and that the New York system is so planned that it can be enlarged when necessary to three times its present capacity.

After visiting the Elizabeth street police station and the cen-

(*Continued on page* 1134)

Fire Commissioner Dorman, New York, Explaining to Alderman Arvey, Chicago, the Plans and Specifications of the Newest of New York's Five Fire Alarm Central Stations

L. R., Deputy Fire Commissioner Edward A. Maloney, Chicago; Alderman Jacob M. Arvey, Chairman of Committee on Gas, Oil and Electricity, Chicago; Fire Commissioner Dorman, and City Clerk Patrick S. Smith, Chicago.

WITH THE EDITOR

Here's A New One!

Impostors adopt all varieties of schemes to trap the unwary. Here, however, is a new idea in impersonations that was successfully worked upon the firemen of two cities. The suave and impressive individual who imposed upon the firemen said he was chief of the Fire Department of Seattle, Wash., and on the strength of this he was not only well entertained, but also several checks were issued by him in each city on the identification of the local firemen, after he had claimed to be out of ready cash. These proved to be worthless, and the supposed chief was found to be a fraud.

This individual then tried the visiting chief game again in another city, but this time it proved to be once too often. The men of the third city were not so trustful, and did a little investigating before accepting the visitor at his face value. The result was the discovery of the fraud and the arrest of the offender.

This is too promising a scheme not to attract the cupidity of others, and chiefs and members of fire departments should make sure of the identity of any friendly visitors unknown to them who represent themselves as the heads of other fire departments. A little diplomatic investigation may save the chief of the local department and his men considerable annoyance and loss, should the visitor prove to be not what he represents himself. It is better to be sure than sorry.

Cooperation by Small Departments

A plan which has worked very well and which could be adopted by many volunteer fire departments of small municipalities adjacent to one another has been instituted by the various villages comprising a California township. This particular township is composed of five villages each with a fire department. An arrangement has been entered into whereby, through a scheme of cooperation, each village is assured of the advantage of first, second and third alarm response, similar to that of a large city.

This is accomplished through the means of a joint assignment card, each department responding to fires in its own territory as first alarms, and as second alarms for fires in adjacent villages. Each company is assigned a number, and the running card designates the certain department which is to respond to second and third or general alarms. This is arranged according to the distances from the village in which the fire occurs.

The salient feature of this arrangement is that all alarms in the township are treated as first, second, third or general, instead of the delay and uncertainty of waiting to request assistance from a neighboring department in case of a bad fire that cannot be handled alone by the village unit. In such an instance, the running card automatically takes care of the situation and the local chief simply turns in the necessary alarm, with the assurance that assistance will surely be forthcoming.

The advantages of such a simple and efficient system over the usual cumbersome and haphazard plan of relying on last minute requests for assistance to other villages is too apparent to need emphasis. In fact, it is only a wonder that such a plan of cooperation has not long ago been put into general practice among village departments in populous sections of the country. The township in question has now tried out the plan and it has worked out as smoothly and successfully as it was hoped it would. It can well be adopted by many others with advantage.

Utilizing the Youngsters

An idea which has taken practical shape in many cities is the formation of Boy Scouts into juvenile fire departments. This entails the proper instruction of the youths in many of the features of fire-fighting and fire prevention. That this appeals to them is shown by the enthusiastic and earnest way in which these youngsters, in practically every instance, have taken hold of the idea.

The importance of this move cannot be overestimated. The boy of the present is the man of the future. In enlisting the interest and enthusiasm of the youth in matters connected with the fire department the city is automatically building up among its citizens a strong group of men who will be enthusiastic supporters of the fire department and its work. Many of these youngsters will eventually become substantial business and professional men of the city and their influence will be a mighty asset in favor of the fire chief and his men. There will come times in the future when such a group of favorably disposed citizens will be invaluable to the department.

Then, too, many of the Boy Scouts who take up the active work in the juvenile fire department will look forward eagerly to the day when they can join the ranks of the honest-to-goodness firemen and become real fire-fighters.

When this time does arrive the knowledge derived through their service in the juvenile department will be of immense value, not only to them, but also to the fire department and the city to which it belongs. It will mean a shorter period of probation for the "rookie" and in consequence a saving of time and expense in instructing him as a fireman. It will also mean—and this is an

important feature—a set of enthusiastic recruits for the department, whose hearts will be in their work.

Another feature not to be lost track of in the instruction of the youths in fire department work is the influence their knowledge and interest will have on their elders. What parent worthy of the name is there that does not enter into the enthusiasms of his or her boys? This will mean a new interest by the adult population—or that portion of it who have boys in the juvenile fire department—in the fire-fighting forces of their city and the work of fire prevention. This will mean that citizens who have rarely if ever given such matters even a thought will become active "rooters" for the city fire department and its work. In this way the cause of fire prevention will receive added impetus and much good along these lines will be accomplished.

COMMISSIONER HULTMAN SPEAKS AT MASSACHUSETTS CHIEFS' MEETING

Eulogy Delivered on Late Chief Whitmarsh of Braintree—Comm. Hultman Stressed Importance of Fire Inspection and Detail Work

By HARRY BELKNAP

THE Fire Chiefs' Club of Massachusetts held the first fall meeting at the Elks' Hotel, Boston, on October 19. Chief Patrick J. Hurley, of Holyoke, presided. The principal speaker was Fire Commissioner Eugene C. Hultman, of the Boston Fire Department.

Superintendent Henry Thompson, of the Boston Protective

Fire Commissioner Engene C. Hultman at His Desk at Fire Headquarters, Boston

Department, was elected Sergeant-at-Arms to take the place of the late Frank O. Whitmarsh, of Braintree.

Among those who spoke briefly upon various topics under discussion were Chief James M. Casey, of Cambridge; Chief Arthur Montmeny, of Chicopee; Chief Selden R. Allen, of Brookline; Ex-Chief John T. Doyle, of Wellesley; Fire Commissioner Walton, of Plymouth; Chief Daniel F. Sennott, of Boston; Ex-Chief Francis T. Morris, of Lawrence; Superintendent Peter E. Walsh, of the Fire Prevention Division, Boston F. D.; Chief John W. O'Hearn, of Watertown; and Chief William C. Mahoney, of Peabody.

Civil service examinations and over insurance were among the subjects discussed. Chief Alfred A. Mead, of Quincy, delivered a touching eulogy upon the late Chief Whitmarsh, of Braintree. Secretary Hill reported the deaths of Chief Fowler, of Gardner, and Chief Severance, of North Scituate. Upon recommendation of a committee headed by Chief Tracey, of Woburn, it was voted to allow an increase in associate members from 10 percent to 15 percent of the total membership in the club.

Chief Thomas McCarrick, of Revere; Chief Henry A. Brown, of Marlboro; and Chief Robert M. Tappen, of Gardner, were elected active members and H. C. Kleinfelder, of the Simplex Wire and Cable Company, was elected as an associate member.

To Consider Convention Expense Bill

The meeting was preceded by the customary luncheon. It was voted to invite the city auditors of Springfield, Worcester, and Cambridge, to be guests at the next meeting and to explain a new bill to be introduced in the legislature by the auditors to legalize the payment by cities of convention expenses of heads of departments. Upon motion by Chief Newman, of Melrose, it was voted to have a committee of two chiefs appointed by the president to bring up subjects of interest for discussion at future meetings.

A demonstration of a new system of automatic fire alarms connected to gongs and horns and suitable for installations in barns, cellars, or business establishments was demonstrated by W. Kennedy Mason, inventor, and president of the American Electrical Company, of Boston.

The address by Fire Commissioner Hultman was as follows:

"I became the Fire Commissioner of Boston by accident a little over a year ago, and since my appointment it has been my endeavor to learn the reason for the high fire loss in the city and the Commonwealth. I found Boston with a fire department of high standard, excellent equipment and well trained men. As I looked about me, in other cities and towns in this state, conditions were practically the same as in Boston. Each community took pride in its fire department and felt secure in the protection provided by the city officials.

Increased Protection Did Not Reduce Losses

"Nevertheless the fire loss was continually on the upgrade. Increased protection did not show its worth in reduced fire loss. In 1926 thirty-seven people died in the State of Massachusetts from fire. In the same period there was a property loss of twenty-one million dollars. What is being done to prevent a similar loss in 1927 and the years to follow? You Chiefs are charged with the responsibility of protecting your cities and towns from the ravages of fire. Are you all aware of the tremendous responsibility that is yours? Are you giving the subject of fire loss reduction serious consideration, or are you standing still waiting for the summons to extinguish a fire because you believe that is your sole duty, namely to extinguish fire after it has started? Some one has said that man goes either forward or backward. There is no standing still. And that is just as true of a fire chief as it is of any man. You call your work a profession, and it truly is a profession, yet I am well aware of your estimation of the man who does not advance in his profession, be it the law, the medicine or any other calling. I say this because I wish to emphasize the duty and responsibility of a fire chief in a community. He must advance with the times and show results, if he desires to gain and maintain the confidence of the people he serves.

"So I come back to the question addressed to you at the beginning, 'What are you doing to reduce the fire loss in your community?'" The logical answer to that question seems to be to reduce the number of fires. Are you making a study of the conditions in your city with a view to correcting a particularly hazardous condition which may be the cause of the trouble? Over and over again the cry has been made that fire chiefs have not the authority to correct conditions or to order improvements which will reduce hazards. True as this may be, I wonder how many of the chiefs of this state have ever attempted to bring to the attention of local civic organizations and citizens the particular problems they have to meet and authority they desire to prevent fires. In every community you have what is called 'bad boxes.' They are so termed because they represent a potential hazard either because they are sounded frequently on the tappers or they are located in sections of your districts where there is a possibility of conflagration due to some particular condition. Did you ever consider taking a map of your city and marking out these hazardous sections and designating on the map the fires that occurred during a certain period? Having made such a chart it would be well to continue the study to determine why there were so many fires in that locality, or what conflagration breeder exists which designates these boxes as ones to be feared. With this data in hand the next step should be for you to bring it to the attention of the citizens in general, and particularly to the attention of the city government and legislators, recommending to them laws and ordinances which will provide an effective remedy in correcting the conditions. I wonder how many chiefs are doing this or are willing to do it. I am afraid that too many

(*Continued on page* 1134)

QUESTIONS AND ANSWERS

Conducted by FRED SHEPPERD, B. Sc., M. E.

"He that questioneth much shall learn much"—BACON

NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Capacity of Fire Boat

To the Editor:

Please publish in an early issue the following problem and show a method of solving the same:

A high pressure station has a capacity of 4,800 gallons per minute at 150 pounds pressure. It is desired to maintain a pump pressure of 150 pounds, and supply as many 400 foot lines of 2½-inch hose with 1¼-inch nozzles as possible. How many lines can be supplied?

A. F.

Answer. In view of the fact that an engine pressure of 150 pounds is desired, the problem is a comparatively simple one. First find the nozzle pressure on any one of the lines. This is accomplished by using the Underwriters' formula.

$$\text{N. P.} = \frac{\text{E. P.}}{1.1 + \text{K} \times \text{L}}$$

E. P. is 150 pounds.

K for 2½-inch hose and 1¼-inch nozzle is .248.

L, the number of 50-foot lengths in the line, is 8.

$$\text{Then N. P.} = \frac{150}{1.1 + 8 \times .248} \text{ or } \frac{150}{3.084} = 48.7 \text{ pounds}$$

Discharge from one of these lines where the nozzle pressure is 48.7 pounds is found as follows:

$$\text{Discharge} = 29.7 \times \text{D} \times \text{D} \times \sqrt{48.7}$$
$$= 29.7 \times 1\tfrac{1}{4} \times 1\tfrac{1}{4} \times 6.98$$
$$= 324 \text{ g. p. m.}$$

The station capacity is 4,800 g. p. m. and each line discharges 324 gallons. The number of lines which the station can then supply is equal to 4800÷324 or 14 streams.

Taking Hose Up Front of Building

To the Editor:

Will you kindly explain the following at your earliest convenience in the Questions and Answers Department of FIRE ENGINEERING?

In your issue of July 13th last you answer a question submitted and which asks to what height a line of hose may be taken up the outside fire escape. Your answer is: To the fifth floor and with the new method of using hook and chain, sixth and seventh floors could be readily reached.

In your issue of September 7th you answer a similar question in this manner: Hose may be taken to the fifth floor through stairwell of fire escape and to the eighth and tenth floors up the outside fire escape and you make no mention of using fire escape hook. I would like to know which height would be considered correct.

T. S. A.

Answer: The fifth floor is usually considered the maximum height to which hose can effectively be carried up the well of a fire escape. If the hose is wanted on higher floors it is the common practice to bring it up the fire escape to the fifth floor and then through a window and then up the stairway.

As to the *maximum* height to which hose can be stretched up the face of a building with hook and chain, this depends entirely upon conditions. For instance, it would be possible to send the hose up any height in an emergency. Recently at the International Fire Chiefs' Convention at San Francisco a question was discussed as to methods for raising hose to great heights. One of the suggestions made, and which was considered practical was to send the hose up the face of the building, lightening it up at every third or fourth floor, by having men placed on these floors to bring the hose in the window and then pass it on up to the men above.

By this method hose couplings would not be subjected to undue strain for the line would be supported at every third, fourth or fifth floor as desired.

The statements to which you referred were made in answer to specific conditions. The fifth floor is ordinarily considered the highest to which hose should be stretched up through fire escape while higher floors may readily be reached by using the chain and hook method. It is perfectly good practice to run the hose any height, along the front of the building and pass into the building on the floor below the fire floor. This will give much faster operation than taking the hose through the window and up a stairway several flights. Bear in mind, however, that hose sent up great distances along a fire escape must be supported at every second landing to prevent undue strain on couplings.

"Common practice" must not be confused with "possibility" in treating a problem of this sort. What has been common practice in the big cities in the way of stretching hose up through the stairwell of a fire escape and going in on the fifth floor, and then by stairs to higher floors, would not apply where the chain and hook is used. In this latter case the hose would be sent up, as noted above, to a floor below the fire and then stretched the rest of the way by stairway.

A Correction

To the Editor:

In answering the first question "Water Tower Problems" in a recent issue the formula reads 30 x 2 x 2 x 9.75.

I find the square root of 90 is 9.486.

Am I right or wrong?

SUBSCRIBER.

Answer: You are right. However, you will notice by checking up this solution that while 9.75 was printed (a typographical error) the actual multiplication shows that 9.486 was used instead of 9.75. In other words if you multiply 30 x 2 x 2 x 9.75 you get approximately 1,170 gallons per minute whereas by multiplying by 9.486 you get approximately 1,137 gallons as given in the solution. Nevertheless your correction is much appreciated.

Standpipe Pressure and Friction Loss

To the Editor:

There is a building which is 314 feet high and has a tank on the roof containing 15,000 gallons of water.

What would be the pressure on the 6th floor with 2 lengths of 2½ inch hose and 1⅛ inch nozzle, allowing 12½ feet to each floor. My solution is as follows, and I wish you would check me up. From the 6th floor to the tank is 21 x 12.5 or 252.5 feet. Using the figure for pressure due to head, this elevation represents 262.5 x .434 or 113.9 lbs. gravity pressure on the 6th floor outlet.

Using the Underwriters' formula for finding nozzle pressure

$$\text{we get N. P.} = \frac{1.1 + \text{KL}}{\text{E. P.}}$$

K is .167 for 2½ inch hose and 1⅛ inch nozzle. L is 2.

$$\text{Then N. P.} = \frac{114 \text{ (approximately)}}{1.1 + .167 \times 2} \text{ or } \frac{114}{1.34} \text{ or } 80 \text{ N. P.}$$

approximately.

With 80 lbs. nozzle pressure and 114 lbs. engine pressure or pressure at the standpipe we have 34 lbs. friction loss, which I know is not correct. Can you determine my error in this solution.

M. J.

Answer: It is presumed that the point which you are uncertain about is the friction loss and not the first part of your problem. With regard to the first part of the problem, it is hard to follow your calculations in that the height of the tank above the roof is not known nor is the depth of the water in the tank given. The 6th floor is 62.5 feet above the street where 12½ feet are allowed for each floor. Add to this 2½ feet for the distance the nozzle will be held above the floor, and you will have 65 feet for the distance from the street up to the nozzle on the 6th floor. Subtract this amount from 314 feet and you have 249 feet instead of 252.5 feet.

However, as this point is not the one in question it will be passed over.

Now regarding the friction loss. The Underwriters' tables show that with 100 feet of 2½ inch hose, 1⅛ inch nozzle and

80 lbs. nozzle pressure, the engine pressure will be 110 lbs. which gives friction totaling 30 lbs.

On the other hand, if you figure the friction out by the friction loss formula you will find it to be 25.55 lbs.

And again, referring to the Underwriters' Red Book for friction loss in fire hose, we find that 100 feet of 2½ inch hose has a friction loss, where the flow is 335 g. p. m., of approximately 26.2 lbs.

You will notice that all three of these figures differ, and differ from your own solution as well.

This is merely because the various formulas used are empirical and not based on accurate mathematical laws. The difference in these formulas accounts for the variance of your solution from what you normally expected to attain. Your calculations are entirely correct, and in examination should receive full credit.

Executing Contradictory Orders

To the Editor:

Being a member of the fire department of this city and also a reader of your valuable journal, I would like you to answer the following question:

On arrival at the fire grounds your superior officer gives you an order to carry out. While proceeding to carry out this order, another superior officer gives a different order for you to carry out.

Kindly let me know which order should be carried out first—the first received or the last.

R. C. R.

Answer: In the first place, an officer of a well organized fire department will not, except in case of an emergency, give orders direct to men in command of subordinate officers. For instance, an assistant chief would not give an order to a man without going to his immediate commanding officer. The exception would be in the case of urgent necessity.

As to which of the two orders would be carried in the instance described in your question, that entirely depends upon the rank of the officer giving the second command. Were he of the same rank as your own officer, which would infer that he was not your company officer, and that you were already carrying out a command of your own company officer, then you should inform the second officer that you were already carrying out an order from your captain. That would settle the matter.

If the second officer were an officer superior to your own, then you would inform him that you were carrying out an order for your captain, briefly relating the nature of the order. The responsibility of any change is then up to him.

It must be remembered that your captain had a very definite reason for assigning you the order which you have received. On it may depend the safety of men, and no superior officer would take it upon himself to countermand such an order unless he knew the reason for which it was given. Hence it would be necessary for you to tell the second officer that you were carrying out a command of your captain and if he countermanded this first order, then you would be obliged to carry out the superior officer's orders.

Oakland Has Novel Fire Station

Something new is always being discovered, and so too in the design of a fire station for Oakland, Cal., the architect has found a means for overcoming a piece of sloping ground. Looking at the illustration, few would believe that the house was built to house a fire company and fire apparatus.

Completed Station of Oakland, Cal.

The building is erected in a high-value residential part of the city. The problem that confronted the officials was to design an attractive fire station on the side of a hill that would add to the value of the surrounding property, aid the efficiency of the fire department and promote the comfort of the men to be quartered there.

Dormitory and living quarters are provided for a double company at the high end of the lot. This is approached by a flight of steps. The apparatus room is on a level with the street. The dormitory is supplied with wall beds and steel lockers. The sitting room is furnished with the necessary furniture to give it a homey appearance. The kitchen has a cooler divided into two locked compartments—one for each shift. There is also a gas stove, sink and a hot water instantaneous heater that can produce four gallons of hot water a minute. The washroom is fitted with a double shower and the two lavatories with mirrors.

The interior of the station is not painted but the natural mottled surface of the Celotex with which the station is constructed, is retained.

Generally speaking, the specifications follow: Precase, reinforced frame, sides and roof, lined with Celotex cast with the slabs. Roof made by painting waterproof plastic asbestos cement direct on to concrete.

A thirty-foot hose drying tower has been built into the station as shown in the photograph.

The contract price for the station with the extras was $18,900. Adding to this the cost for grading, painting, paving and for the furnishings, the complete cost will be about $23,000. This cost is high because of the large amount of excavation and because of the concrete retaining walls that were erected.

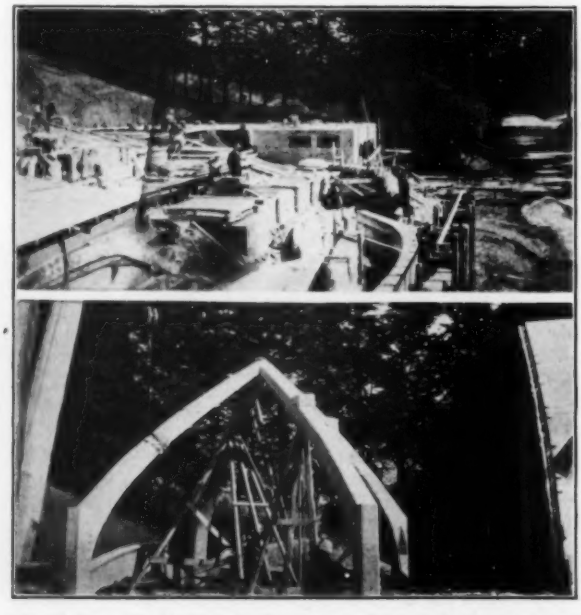
The land will be graded and beautified by the addition of plants and shrubs. Frank Colbourn, Commissioner of Public Works, has very kindly supplied the data concerning this station.

McDonough Made a District Chief

Commissioner Eugene C. Hultman, of Boston, Mass., announces the promotion of Captain John F. McDonough, of Ladder Company No. 8, to district chief, effective on November 15. He will take the place of District Chief Allan J. Macdonald who retires on pension.

McDonough is 46 years of age and was appointed to the Boston fire department on July 15, 1904. He was made a lieutenant in 1922 and captain in 1925. He was graduated from the Boston Fire College in 1921 with high honors. He has served with Ladder Company No. 18, Engine Company No. 26, Engine Company No. 35, and Ladder Company No. 8. The first company to which he was assigned upon entering the department was commanded by District Chief Macdonald who was a captain at that time.

HARRY BELKNAP.



Two Views of the Station in the Process of Construction

FURNACE-ROOM FIRE DESTROYS ST. MARY'S CHURCH IN BRIDGEPORT

Fire Most Disastrous in City in Recent Years —Damage Estimated at $100,000—Oldest Church in Connecticut—Art Objects Lost

By T. F. MAGNER

ONE of the most disastrous fires that has occurred at Bridgeport, Conn., in many years broke out in the furnace room of St. Mary's Roman Catholic church, corner of Pembroke and Steuben streets, on the morning of October 21, causing a loss estimated at $100,000 before it was subdued. The main altar of solid hand-carved mahogany with marble fixtures and tabernacle was completely destroyed. Costly church ornaments, statues, oil paintings and fixtures were also lost.

The fire started, it is believed, in a defective flue that ran from the furnace room to the top of the church. It spread from the rear of the church to the front through a "blind" attic that extended more than 15 feet from the ceiling to the roof. The roof was completely destroyed and the church organ located in a loft at the entrance of the church was blown apart by an explosion of dust in the organ pipes.

The first alarm was turned in from Box 613 at 2:25 a. m. which brought Engines 2 and 6, Chemical 1 and Truck 3 in command of Asst. Chief T. F. Burns. Chief D. E. Johnson responded on the first alarm after noting the location of the fire and turned in a second alarm, a still, which summoned Engine 5 and Truck 2 with Asst. Chief A. S. Mellor responding on the special signal. The fire gained headway and another special signal alarm brought Engine 8 to the fire. An alarm, pulled by a pedestrian, called out Engines 1, 4 and 10.

Twelve streams were directed on the fire, both from the interior and exterior. Two streams were played on the 150 foot steeple which saved it from catching fire and in all probability toppling to the ground where the firemen were working. The recall was sounded at 5:10 a. m.

St. Mary's is one of the oldest Catholic churches in Connecticut and was dedicated 50 years ago this month. Extensive preparations have been underway to observe the golden jubilee on Sunday, October 30.

Rev. Father E. M. Wilson, the pastor, complimented Chief Johnson and his men for the work they did in saving the edifice from total destruction.

Apparatus in service at the fire included seven motor pumpers of 750 gallons per minute capacity, two 75-foot aerial ladder trucks, two 50 gallon chemical squad wagons. One chief, two assistant chiefs and 75 firemen were on duty at the fire. Twelve streams were laid in and 10,000 feet of 2½-inch hose was used.

Paterson, N. J., to Have New Fire House—A new fire station will be erected in the Peoples' Park section of Paterson, N. J.

Quincy Has Unusual Straw Fire

Residents of Quincy, Ill., will long remember the fire that occurred in the upper yards of the North Star Paper Mill Company. There were nine thousand tons of baled straw at the time.

Fire was discovered by a factory worker who went to Engine Company No. 4, two blocks away, to report the fire at 3:40 a. m. Two alarms were sounded. When the firemen arrived the ricks were burning fiercely in the center. The men had considerable difficulty in reaching the heart of the fire because it was necessary to lay lines under water drains of the main railroad tracks of the Wabash railroad.

The stacks were surrounded by a twelve-foot wire fence which was surmounted by three strands of barbed wire. It was necessary to dig trenches to scuttle the lines beneath the fence.

The stacks were 190 feet long, sixty feet wide and fifty feet high. Enough space was left between each rick to drive a small wagon. This made it easy for the fire to spread from rick to rick and in a short time the nine thousand bales of straw were

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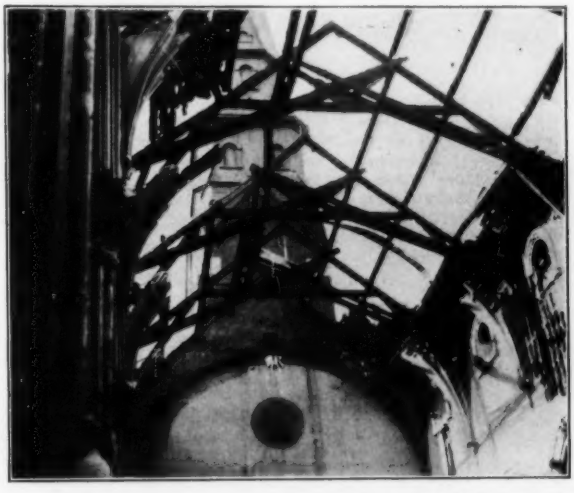
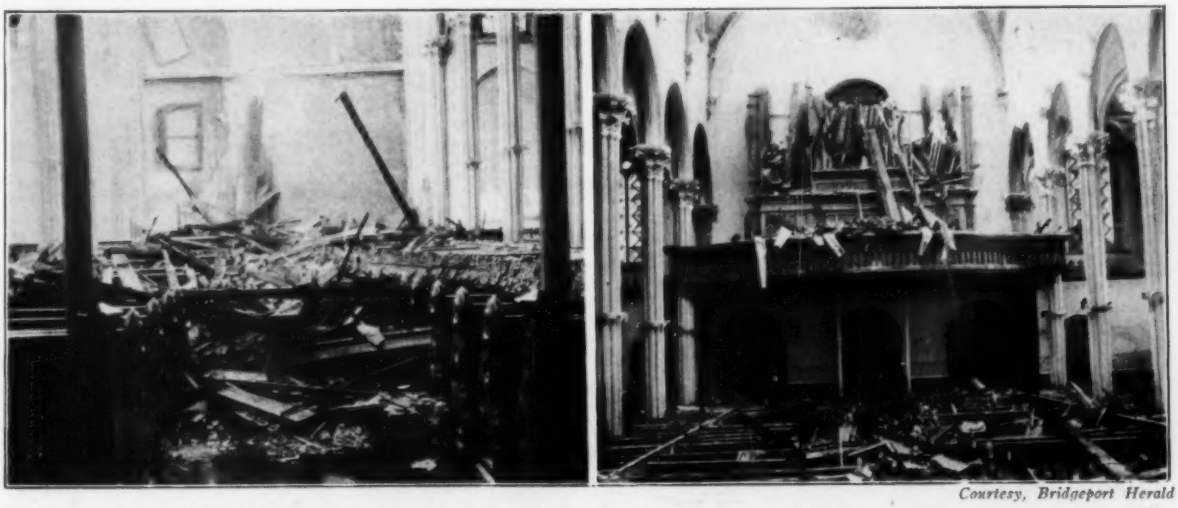


Courtesy, Bridgeport Herald

Burned Wood Timbers That Supported Slate Roof of the Church

The roof crashed down to the main floor shortly after this photograph was taken.



Courtesy, Bridgeport Herald

Two Views of the Damage Done by Fire in St. Mary's Church, Bridgeport, Conn.

Left, main aisle of church where the heavy timbers fell from the roof and set fire to the pews. Right, looking from the altar towards the rear of the church. An explosion of dust wrecked the huge pipe organ.

ablaze. Dense clouds of smoke hung over the city and at night, the sky became a glaring red beacon.

Eight pumper streams were used at the fire and the apparatus worked from 3:40 a. m. to 11 a. m. After that the department depended on the hydrant streams for wetting down. The fire continued to burn for days. Squads of men were kept on the scene both day and night to prevent the spread of fire to adjacent factories.

Many escapes from death were reported. Some firemen while directing a hose stream narrowly missed death when a nearby burning pile turned over burying the hose lines. Later, another stack caved in and fell upon a roof of a wagon shed. Beneath the roof, several firemen were working and they were caught. One of the men who was dug out from the mass of blazing straw, was uninjured but he suffered from inhaling quantities of smoke.

Four pumpers were in operation under Chief Yates. In addition there were one combination chemical, one aerial truck and one turret wagon. Besides the chief there were three assistant chiefs and forty-seven firemen at the fire.

There have been other straw fires in the city, but none like this one, which did a $50,000 damage.

EARL NOLAN.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

Week Ending October 21

CORDO, ALA.—Warehouse of T. A. Noland destroyed..... 30
CHICAGO, ILL.—Spiegel's furniture store..... 25
DILLONVALLE, W. VA.—K. Olszeski & Sons store damaged.. 85
MOLINE, ILL.—Lundell Bldg. damaged..... 25
SALINA, KAN.—Elevator at mill of H. D. Lee..... 100
JACKSON, MICH.—Temporary bldg. at State Prison..... 25
CHATHAM, N. J.—Health farm of G. T. Brown destroyed..... 65
CLEVELAND, OHIO.—Property of Cleveland Fibre Co..... 25
FAIRHAVEN, CONN.—Coal pocket of T. Jones damaged..... 40
CANANDAIGUA, N. Y.—Stable of P. H. Menihan destroyed... 50
PITTSBURGH, PA.—Bldg. occupied by B'way Cloak & Suit Co. 400
BEACON, N. Y.—Beacon Crest Hotel destroyed..... 165
OCEAN CITY, N. J.—Four square blocks of bldgs. destroyed..2,500
LINWOOD, MICH.—Barn on C. E. Lambert farm destroyed.. 25
HANOVER, OHIO.—Hanover Brick Plant destroyed..... 40
KANSAS CITY, KANS.—Glue Factory of Morris & Co..... 290
COLUMBUS, MISS.—400 bales of cotton damaged..... 30
TOLEDO, OHIO.—Green Mill Gardens (night club)..... 80
WINSTON-SALEM, N. C.—Gilmer's Dept. Store damaged.... 210
DANVILLE, PA.—Bldgs. in business district..... 75
ST. JOSEPH, MICH.—Bldg. occupied by Burgess Chem. Co. 75
ANNONA, TEX.—Annona public cotton yard destroyed..... 65
HINGHAM, MASS.—High School destroyed..... 65
ST. LOUIS, MO.—Factory, Chouteau Shoe Factory..... 40
NASHVILLE, TENN.—Grain elevator, Gillette Grain Co..... 250
GREENSBORO, PA.—Behigeni Bakery and adj. property..... 60
EDGEWATER PARK, N. J.—H. S. Ehret residence destroyed 40

Week Ending October 28

NEW ALBANY, IND.—Plant of White Tent & Awning Co.... 40
WHITE SPRINGS, FLA.—Bldg. of Cootee Hardware Co..... 35
TORONTO, ONT.—Clarendon Bldg., Richmond St..... 125
ST. LOUIS, MO.—Krenning-Schlapp Grocer Co..... 25
CINCINNATI, O.—Garage and adj. property, Livingston St... 25
PHILADELPHIA, PA.—Tolliver Garage, Walnut St..... 25
CLARKSTON, MICH.—Business Bldg. destroyed..... 25
TUSKEGEE, ALA.—Dudley Planing Mill and adj. property.... 25
BRIDGEPORT, CONN.—St. Mary's Roman Catholic Church... 100
VANCOUVER, B. C.—Plant of British Columbia Hardwood Floor Co. 40
ORANGE, MASS.—Cook Block, Central Square damaged..... 25
PATERSON, N. J.—Sheds of Dillistin Lumber Co., destroyed.. 165
SALT LAKE CITY, UTAH.—Carpenter Paper Co., damaged.... 165
GAINESVILLE, GA.—Mrs. H. H. Dean's residence..... 40
LANCASTER, O.—Lancaster Lumber Co., destroyed..... 75
STURGIS, MICH.—Bldg. of Berridge Shear Co..... 40
NORTH OXFORD, MASS.—Ice houses of Pocasset Ice Co..... 25
EXTER, MO.—Nine dwellings destroyed..... 125
FOREST RIVER, N. D.—Business establishments destroyed.... 25
LOS ANGELES, CALIF.—Finch Chemical Corp. destroyed.... 125
FULTON, MO.—Odd Fellows' Hall and dept. store..... 25
CORVALLIS, ORE.—Whiteside theatre damaged..... 40
MARYSVILLE, CALIF.—Theatre of Nat'l Theatre Syndicate.. 40
TELLURIDE, COL.—Bldg. of Smuggler Union Mining Co..... 40
CHICAGO, ILL.—House of Correction damaged..... 80
PORTLAND, ME.—Plant of Winslow & Co., Inc..... 200
CHICAGO, ILL.—Bldg. at 1458 West Kinzie St. damaged.... 40
RAY, ARIZ.—Branch of Kelvin Lumber Co..... 25
LOS ANGELES, CAL.—Jevne Wholesale Warehouse..... 40
CRAIG, COLO.—Refinery of Texas Company..... 25
COVINGTON, PA.—Odd Fellows' Hall and Craig Garage..... 50
MILLET, ALTA.—Several business establishments..... 30
TUPPER LAKE, N. Y.—Propps, Inc. department store..... 25
ARRAN, SASK., CAN.—Stores, garage and dwelling destroyed. 40
LAKE CITY, S. C.—Warehouse of G. R. Bowen damaged..... 40
SAN JOAQUIN VALLEY, CAL.—Hotel and 9 business establishments 80
SPRINGFIELD, MINN.—Elevator of Springfield Milling Co... 75
CHICAGO, ILL.—Loop wholesale house damaged..... 60
LYNN, MASS.—Maple Street business building damaged..... 40
TUSKEGEE, ALA.—Lumber yard of Dudley Planing Mill..... 25
PICHER, OKLA.—Mill of Tar Creek Mine near Treece..... 65
HARPERS FERRY, W. VA.—Anthony Memorial Hall & adj. property 40
MONTICELLO, N. Y.—Monticello Lyceum destroyed..... 45

Pump Raises Water to 46th Floor

Residents of Columbus, Ohio, were eye-witnesses to an interesting experiment when a 1000-gallon Seagrave pumper in the service of the Columbus fire department forced water from a city hydrant to the forty-sixth floor of the American Insurance Union Building.

The engine was connected to the hydrant through two one-hundred foot lines of 2½-inch hose and the discharge from the pumper was connected to the intake of a 6-inch standpipe which extended from the street to the forty-fourth floor.

At this level, a two-hundred foot line of 2½-inch hose was laid from the top of the standpipe to the forty-sixth floor.

At the request of the building management the pressure in the standpipe was kept below four hundred pounds as the standpipe was never tested above that figure. The report of the Underwriters who conducted the test showed that the engine operated with the throttle only half opened. The statement showed that the pump delivered 353 gallons per minute through a 1⅛inch tip at the forty-sixth floor at a pump pressure of 380 pounds. The unretouched photograph shows the fire stream produced.

Stream at Forty-Sixth Floor of Office Building

After the test of this pumper was completed, a 400-gallon Suburbanite pumper was connected with the same layout, but a ⅞-inch tip was used. This small pumper delivered 228 gallons of water a minute at the forty-sixth floor at an engine pressure of 336 pounds.

The test was conducted by the Ohio Inspection Bureau.

TIME MADE BY DETROIT SCHOOL FOR NATIONAL BOARD EVOLUTIONS

Rescue Company No. 2 Wins Meginnity Medal for Best Time—List of Evolutions and Time Made by Winning Company

By WILLIAM JEROME DALY

THE Fire Department of Detroit, Mich., which maintains two schools, (eastside and westside) for the training of its recruits and for the drilling of its companies, has just completed a compilation of the results of the evolutions at the training school and fire college for the season of 1927.

Men at Head of Drill School
L. to R., Battalion Chief Harry Callahan, Drillmaster and Chief of Department Stephen J. De May.

The results indicate that for eleven evolutions, with two officers and thirteen men to a company, the total time made by the 93 companies participating in the year 1927 was two hours, eight minutes and 24 seconds faster than the total time made by all companies in the year 1926. The total time made in 1926 was 23 hours, 12 minutes and 44 seconds and in 1927, it was 21 hours, 4 minutes and 20 seconds.

Rescue Company No. 2 with a penalty of 30 seconds, made the unprecedented record of 10 minutes and 41 seconds and is therefore the winner of the "Meginnity Medal" a prize founded by retired Chief Edward Meginnity, the predecessor of Chief of Department Stephen J. De May. The medal is a circuitous affair, going next year to another company unless Rescue No. 2 wins in again. But in any event, it is not a permanent trophy.

Engine Co. No. 8 was second high with a record of 11 minutes and 31 seconds, although it suffered a penalty of 15 seconds and Rescue Co. No. 3 was third, with 11 minutes and 48 seconds.

Battalion Chief Harry J. Callahan, son of retired Chief Callahan of the Detroit department is the drillmaster. Chief De May uses the evolutions prescribed by the National Board of Fire Underwriters, as follows:

(Numerals in italics are the time in which the winning company performed the evolution.)

Standpipe

Operation No. 1, 57"

At the command "Stretch": Stretch two 2½" lines (2 lengths 100 ft. each) from engine to siamese connections on the north side of tower.

Roll one length 50 ft. of 2½" hose as per regulation.

Place rope sling and carry roll up stairway to 4th floor connecting to inside standpipe connection.

Put on nozzle and holder and stretch up stairway to 5th floor showing nozzle out of north side of tower.

NOTE: The following equipment must be carried to the 5th floor, rope, axe, small hose.

Fire Escape Drill With Ladders

Operation No. 2, 41"

Raise 20 ft. straight beam ladder and place against 2nd floor of tower and then have 12 ft. roof ladder carried up 20 ft. ladder and passed to men stationed on each floor of tower to top floor where ladder will be taken in.

NOTE: One officer and 9 men only will participate in this operation. All men must ascend and descend by way of 20 ft. ladder. In lowering ladder men are cautioned to remain in tower until ladder is in sight.

Hose Roller

Operation No. 3

(A) *1' 13"* Stretch one 2½" line (5 lengths 250 ft.) from engine and then hoist up north side of tower with hose rope over roller and place on 5th floor of tower and then by stairway to top floor showing nozzle out of north side.

NOTE: Roller must be secured with tail rope to upright column on south side of tower with a round turn and two half hitches close to the floor. Hose must be secured by a clove hitch under coupling hanging about a foot under roller and fastened by a clove hitch to rail above roller.

NOTE: The following equipment must be carried to 5th floor, hose roller, rope, axe, holder.

(B) *35"* Take out bursted length in tower.

NOTE: Length to be taken out is the 2nd length from nozzle and replacement will be made between 4th and 5th length on the ground.

(C) *50"* Take out bursted length on side of tower by lowering hose to the ground and replace same with new length.

Ladder to Roof Drill

Operation No. 4, 1' 03"

Raise 25 ft. straight beam ladder to top floor of tower with a rope.

NOTE: Bowline hitch to be used.

One officer and 9 men will participate.

Fire Escape Hook

Operation No. 5, 1' 01"

Stretch one 2½" line (5 lengths 250 ft.) from engine and raise up north side of tower with hook to 5th floor. Take off hook and put on holder and stretch up stairway to top floor showing nozzle out of the north side. When order is given to play away, ladder straps will be placed on line at 3rd and 5th floors.

NOTE: Hook will be secured around nozzle below shut off. Top ladder strap will be placed below coupling of first 50 ft. length and both ladder straps will have a strain on them.

Turret Nozzle

Operation No. 6, 26"

Stretch three 2½" line (100 ft. in each) from high pressure hydrant to turret nozzle and operate same.

NOTE: Wrench will be placed on center stem of hydrant.

Extension Ladder and Hose Drill

Operation No. 7, 1' 13"

Butt and raise 40 ft. extension ladder to base on stairway on 4th floor.

(B) Stretch one 2½" line (5 lengths 250 ft.) from engine up extension ladder to 4th floor and then up stairway to top floor showing nozzle out of the north side of tower.

Detroit Fire Department Drill School

NOTE: Ladder must be placed safely keeping the proper distance out at the butt. Ladder will be raised with 6 men only. No more than 4 men will be allowed on ladder at one time either in ascending or descending. After the command "Play away" is given, ladder strap will be placed on hose and then hooked to top round of ladder.

Cellar Pipe Etc.

Operation No. 8, 21"

Stretch one 2½" line (2 lengths 100 ft.) from engine to platform and operate all types of special nozzles.

NOTE: Time to be taken when water shows at nozzle on first operation only. Cellar pipe to be connected on platform.

Sprinkler, Etc.

Operation No. 9, 43"

Stretch two 2½" lines from engine. First line (2 lengths 100 ft.) to sprinkler connection on platform; second line (5 lengths 250 ft.) up stairway to top floor showing nozzle out of north side of tower.

NOTE: Hose must be laid on stairway and not over railing of same. When first line is connected turn water on sprinkler.

Deluge Set

Operation No. 10, 31"

Stretch two 2½" line (2 lengths 100 ft. each) into a two-way siamese (2½" to 3") then into a 3" lead. Put on nozzle and tripod holder.

NOTE: Time to be taken when water shows at nozzle. 3" lead to be left with other hose until order is given to "stretch".

55 Ft. Extension Ladder

Operation No. 11, 30"

Butt and raise 55 ft. ladder to full length and place against tower.

NOTE: Ladder will be raised with 8 men only. Time to be taken when ladder has been properly placed.

General Remarks

Commanding officer will not assist in handling any equipment. All men will be designated to their respective positions by the Commanding Officer only during the time drill.

One officer and two men will be at nozzle on all hose operations. Officers will alternate in going to top of the tower on all operations. On all hose operations water must be turned on and gate placed on hydrant and engineer stationed at gates on engine and all connections tight.

On hose operations where two or more lines are stretched, no lines will be crossed.

Commanding officers will furnish two rosters of their company when reporting at the Training School—One to be addressed to the Chief of Department and one to the Chief Instructor, respectively. Rosters shall consist of names and badges of members present, absent, cause.

Penalty

Loose connections	5	seconds
Failure to take up equipment in tower	30	"
Improper placing of lines	10	"
Improper placing of ladders	5	"
Improper tieing of knots	5	"
Improper carrying of pipe	5	"
Men not in proper positions	10	"
Improper use of ladder straps	5	"
Star or strap on siamese upside down	5	"

"Box 52" Elects Officers

P. Hildreth Parker was elected president of the Box 52 Association, of Boston, Mass., at the annual election held on October 19 in the headquarters of the organization at 30 Huntington Avenue.

The other officers chosen were as follows: Vice-president, Bartlett Tyler; Treasurer, George W. Austin; Secretary, Harry J. Rockett; Asst. Secretary, Frederic Blake; Executive Committee, William E. Dolan, William F. Lehman, Harry C. Pratt, Arthur M. Wall, and Frederick A. York.

Annual reports of officers and committees were received and other routine business transacted. Announcement was made of the election as an honorary member of Deputy Chief Kelley, of the Boston Fire Department.

HARRY BELKNAP.

Villages Unite for Fire Service

According to the plan of cooperation instituted by Washington Township in California, a village, even though it is limited in equipment, can have first, second and third alarm response in a manner similar to the larger municipal departments.

At the present time the Washington Township has five volunteer fire departments that cooperate as one department. Each company has a number that was assigned in the order that the company joined the association. An assignment card has been devised that covers the movement of all companies in that territory.

The first alarm assignment is for companies answering fires in their own territory. The second alarm response is for a fire in an adjacent village and so on. A call to another department for assistance is merely treated as another alarm.

At a large fire recently in Alvarado, Engine No. 5 from Alvarado responded as the first call for the fire occurred in their section. The fire involved several dwellings and it was necessary to send out a second alarm. On the second alarm, Decoto Company No. 4 answered, and a general alarm was sent out shortly afterwards. This brought out Companies No. 1, 2, and 3 from Newark, Centerville and Niles. When the fire was brought under control, Engine 4 of Decoto was returned to its quarters and was then ready for answering any alarm that might happen in Washington Township while the other companies were still fighting the fire in Alvarado.

This plan of mutual assistance has worked out well and the various member companies in the township are enthusiastic over the beneficial results.

ROLAND BENDEL,
Chief, Decoto, Cal.

New York Entertains Detroit Officials

Fire Commissioner C. Hayward Murphy and Fire Chief Stephen J. De May, of Detroit, Mich., spent part of Fire Prevention Week in New York City, inspecting the New York Fire Department. They had been to the Gamewell plant in New England on official business and returned to Detroit, via New York, as Chief De May had not been to the metropolis before and wanted to look it over.

In the three days they spent in Gotham, they employed every minute of it on some sort of firemanic mission, from fireboats to water towers and from the depths of the Holland vehicular tunnel to the peak of the Woolworth Building.

Fire Commissioner John J. Dorman and Fire Chief John Kenlon greeted them most cordially. Chief Hurbert J. Treacy, of the Bureau of Repairs and Supplies, placed an official car at their disposal; Deputy Chief John J. McElligott of the Marine Division gave them a trip around the harbor in the flag ship of the Marine Division, Dr. Harry M. Archer, premier fire fan, gave a dinner in their honor; Honorary Deputy Chief Robert H. Mainzer who had just returned from inspecting the fire departments of the capitals of Europe entertained them at luncheon and Ole Zingstadt, chief engineer of the Holland Tunnel, who is scheduled to soon go to Detroit in the same capacity for the Detroit River Tunnel to Windsor, Canada, showed them through the vehicular tubes under the Hudson River.

The Detroit fire commander visited the New York School of Instruction, the High Pressure pumping stations, the Fire Department Ambulance and the Manhattan Fire Alarm Central Station located in Central Park. He inspected New York's enormous shipping and wharfage facilities and was all through the trans-Atlantic steamer, Berengaria, just prior to the ship's departure for Southampton.

There is and has been for some time an entente cordiale between the New York and the Detroit Fire Departments — and baseball did it in the first instance, although the mutual admiration was cemented principally by Mr. Murphy, president of the Fire Commission of Detroit. The officials of the two cities have exchanged a great deal of official information, in the interests of better fire departments. One of the first things Chief De May wanted to inspect was the new 1,000 gallon Ahrens-Fox engine in the quarters of Company No. 65. About the only thing that nettled the veteran fire officer from the mid-west was—"where does downtown begin?"—he said this at 96th street and Broadway, when the writer remarked that we would now go downtown. To the fire chief, 96th street and Broadway was as thickly populated as "downtown" could be anywhere, so therefore, where does "downtown" really begin and end.

At the gathering in Dr. Archer's home, the chief of New York and the chief of Detroit exchanged many expressions. Chief De May has served for 43 years and Chief Kenlon for nearly 41 years. In leaving, Chief De May said to the writer: "I can see why your department is so wonderful and efficient, you have such splendid men in charge of it. Every possible courtesy has been extended to me here, your Commissioner and your Chief are extraordinary officials, progressive and efficient and seem to be held in the highest esteem by those whom they command.

"Is it any wonder therefore, that your department with its 6,500 men and its 320 fire fighting units, should be so well handled, for after all a contented force is an efficient force."

WM. JEROME DALY.

Scranton, Pa., to Have New Fire Station—The erection of a fire station to cost $10,000 has been authorized in Scranton, Pa.

Lebanon, Pa., Has New Fire Station—Lebanon, Pa., dedicated a $15,000 fire station. Many city and state officials attended.

Erie, Pa., Splits Hose Contract—Erie, Pa., split the contract for three thousand feet of fire hose among three companies. An order for one thousand feet was awarded to the Bi-Lateral Fire Hose Company, Fabric Fire Hose Company, and the Eureka Fire Hose Company.

New York Firemen Campaign For 8-Hour Day

(*Continued from page* 1122)

Holterback argued that the dormitory space now required for beds, could be spared to the city—at least 800,000 square feet throughout the entire department. He did not say, but it was printed and published by the association of which he is president, that the available bed space could be used for storage purposes.

Fire Chief Kenlon's appearance was the occasion for an outburst of applause. Alderman Solomon, chairman of the committee asked him for his views. "Views about what?" inquired the veteran commander, "what is the proposition, what was I sent for, what is all this about?"

It was explained to the fire chief that a public hearing was being held on the question of an eight hour day for the firemen and policemen. Chief Kenlon arose and said:

"The Fire Commissioner has just sent me over here. We have had no time in which to give this matter the consideration it deserves. It may be a good thing for the firemen, but I am not so sure that it would be a good thing for the fire department. I don't know—give me a chance to look into it. I have had but one conference on this matter and I said at that conference that I would be glad to consider it. I am not quite sure about it. I want to take it up further and review it from every angle."

Chief Kenlon was reminded that he opposed the two platoon law when he appeared at a public hearing before the State legislature in Albany some years ago. He said that was true, but the reason for his opposition was because the department at that time was 1,100 men short due to the war and that he was opposed to weakening the department any further.

"I am of the same attitude now" Chief Kenlon continued, "I do not know where we are going to get the men to make such a system possible. It means increases in the force in every rank and grade. You cannot divide the department into three parts overnight. I have certain responsibilities which I owe to the taxpayers of this city. The burden of such a proposition would be on me. This matter needs careful study and much thought." Turning toward the assembled firemen he said: "I am in favor of whatever is for your benefit, but I must be convinced, and when I am, you can be assured that anything which is good for you, I am for it. I am of the same cloth as you are. I was in the position you men are in now. I am of the same piece as you all are but if this Board enacts this bill into law, you will find your old Chief ready and willing to put it into operation, the same as I did the two platoon system."

Chief Kenlon's remarks, while applauded, were nevertheless taken by the blueshirts as an omen of delay in the ultimate disposition of the measure. Hundreds of the firemen present were men who are on the eligible list for promotion to the rank of Lieutenant. The enactment of an eight hour law will mean at least 300 more lieutenants, 43 more battalion chiefs and 14 more deputy chiefs, which when added to 1,500 more firemen will involve an expenditure of nearly $4,000,000 annually in the fire department.

Many of the firemen, if they dared to speak out the truth, favor an increase in salary rather than a decrease in time served. They argue, that time means nothing, whereas a larger salary means more comfort at home, more clothes, more luxuries, better education for the kiddies, etc. It is a well established fact, although not broadcast, that there is a decided division of opinion among the firemen themselves over the wisdom of the measure.

Many members of the Board of Aldermen spoke in favor of the bill, which has become somewhat a political issue in Aldermanic districts. There is little doubt about the committee reporting the bill favorably in time to have the full Board pass it at the meeting on November 1st and thereby remove the onus from the Aldermanic body prior to Election Day which is November 8th, but then the bill must go to the upper house (Board of Estimate & Apportionment) of the Municipal Assembly and this cannot happen until after Election Day.

Another feature of the matter which has caused dissention among the firemen is the overzealousness of the proponents of the measure to have the beds taken from the fire houses. It was pointed out at the hearing that the removal of the beds will be detrimental to the health and comfort of the firemen especially those on the midnight to morning tour, that it will deprive firemen's widows (the engine house matrons) of a livelihood and that in the event of a recall of all platoons due to some public emergency, the men will be without sleeping facilities while on full duty. It was argued that elimination of the beds should not be made a condition prerequisite to obtaining the desired legislation, that it was too great a concession to make voluntarily and that since it would be natural and automatic for men to fall asleep in the silent hours of the night while awaiting an alarm of fire, they may as well have proper physiological rest instead of reclining in chairs, on billiard tables, pianos, on top of hose wagons and other unnatural postures so prevalent when the two platoons were tried out in 1903 without beds in quarters.

Probable Increase in Salaries for N. Y. F. D.

Increases in salaries in the New York Fire Department were put into the tentative city budget for the year 1928 for all ranks excepting that of Chief of Department, Engineers and Firemen. The Chief of Department was increased from $10,000 to $12,500 last year. The firemen were increased three years ago and the engineers were increased last year.

The budget may, by law, be decreased up to December 25th, but it is not probable if there should be any interference with the budget which now amounts to approximately $511,000,000 (tentatively) that the members of the Fire Department will be molested.

The proposed rates for 1928 are as follows: Assistant Chief Joseph B. Martin from $7,500 to $7,800; Assistant Chief Patrick Walsh from $7,000 to $7,300; Assistant Chief John Davin from $6,000 to $6,300; Assistant Chief Thomas F. Dougherty from $5,000 to $5,800; Deputy chiefs from $5,500 to $5,800; Battalion chiefs from $4,490 to $4,790; Captains from $3,700 to $4,000 and Lieutenants from $3,200 to $3,400.

The estimated total payroll for salaries for the uniformed force only for the year 1928 appears to be $16,568,620.

Officers, Iowa Firemen's Association

The officers elected at the recent convention—the fiftieth—of the Iowa State Firemen's Association, held at Emmettsburg, Ia., were as follows:

President, Charles Luppold, Red Oak.
First Vice-president, L. R. Morris, Ames.
Second Vice-president, W. A. McKee, Atlantic.
Third Vice-president, G. Van-der-Aarde, Milford.
Secretary, E. E. Parsons, Marion.
Treasurer, J. J. Lynch, Vinton.

It has been decided to hold the 51st convention at Independence on September 13 and 14, 1928, and the fire department of that city, according to Secretary Parsons, has already started activities toward making it one of the largest the association will have ever held.

Short Course Held in Ames, Ia.

Firemen from various parts of Iowa attended the third short course for fire-fighters held at the Iowa State College in Ames on October 18-21. Many interesting papers were presented and a number of instructive demonstrations were arranged.

Peter Denger, chief of Davenport, Ia., spoke on the increased standards for fire-fighters. J. A. Tracy, Des Moines attorney general spoke on "The Firemen's Right and Duties Under the Law." President R. M. Hughes of the college welcomed the firemen and spoke on the need of education in fighting fires.

Harry K. Rogers of the Western Actuarial Bureau was on the program. P. F. Hopkins, city manager of Mason City and former city manager of Ames, J. E. Florin superintendent of the fire prevention industrial commission of Wisconsin and L. R. Morris chief of Ames gave talks on various subjects.

On the third day of the course there were papers on building construction and fireproofing. Prof. A. H. Kimball, head of the architectural engineering department of Iowa State college spoke on "Building Construction Good and Bad in the Business District." Frank C. McAuliffe, chief of the Chicago fire patrol, spoke on "Unsatisfactory Sprinklered Fires and Some Causes and Corrections." He was followed by Dr. O. H. Sweeney head of the chemical engineering department of the college who presented a paper on "Chemicals and Fire." Demonstrations were held on hose and ladder evolutions.

Actual fire-fighting problems were discussed by L. J. Murphy, municipal engineer of Iowa State College, who is in charge of the course this year.

Charles E. Sloan head of the Ottumwa, Ia., department spoke on fires in the business district and Mr. McAuliffe who appeared earlier in the program spoke on "When Fires Should be Ventilated." Chief Daniel Shires of Rock Island, Ill., gave a paper on gas, oil, chemicals and electrical hazards. George Knoll of the Mine Safety Appliance Company demonstrated the use of smoke masks.

A banquet was arranged for all who attended the short course at Ames.

NEW ENGLAND CHIEFS SET DATE FOR CONVENTION IN BURLINGTON

Four Days Set Aside for This Year's Gathering to Permit Trip Down Lake Champlain—Directors Hold Meeting to Make Plans

By HARRY BELKNAP

PLANS for the coming convention of the New England Association of Fire Chiefs were made at a meeting of the Board of Directors held in Burlington, Vt., on October 20. The convention will be held in Burlington on June 26-29.

This means that the convention will be for the first time a four day affair, the extra day being added to the schedule in order to allow time to give the chiefs a chance to take a trip on Lake Champlain and view some of the beauties of the Green Mountains.

The meeting was attended by Chief William C. Shepard, of Pittsfield, Mass., president of the association; Chief John W. O'Hearn, of Watertown, Mass., secretary-treasurer; Chief James M. Casey, of Cambridge, Mass.; Chief A. J. Cote, of Woonsocket, R. I.; Chief Lawrence E. Reif, of New Haven, Conn.; Chief Carl D. Stockwell, of Burlington, Vt.; George F. Cobb, of Boston, traffic manager; Harry Belknap, of Boston, press representative; Mayor C. H. Beecher, of Burlington; H. A. Thompson, chairman of the Convention Bureau of the Burlington Chamber of Commerce; H. L. Ford, secretary of the Chamber of Commerce; W. H. Linsley, president of the Burlington Board of Aldermen; F. E. Morgan, chairman of the Board of Fire Commissioners; Assistant Chief William Carty, of the Burlington F. D.; Frank L. Brown, and Willard C. Arms, of Burlington. The meeting was held in the Chamber of Commerce Building in Burlington.

It was voted to hold the exhibits and meetings in the new Memorial Auditorium which is now nearing completion. The Hotel Vermont was designated as convention headquarters.

Chief Alfred H. Koltonski, of Rutland, Vt., and Frank M. Tiffany, of Boston, were named as a Committee on Exhibits.

Plans for the convention were discussed. Secretary O'Hearn reported the deaths since the last meeting of the directors of Ex-Chief Frank O. Whitmarsh, of Braintree, Mass.; Ex-Chief Fowler, of Gardner, Mass.; and Ex-Chief Severance, of North Scituate, Mass.

It was voted to appoint Chief Fortin, of Lewiston, Me., as chairman of a committee to carry on the work of standardization of hose couplings in the State of Maine.

The visiting chiefs were escorted through the new Burlington fire headquarters building by Chief Stockwell.

Massachusetts Chiefs' Meeting

(*Continued from page* 1126)

are prone to sit back and wait to be consulted, and finally, when they are consulted, cannot express themselves clearly because they are not prepared to show in black and white and red the dangers that lurk in their districts.

Carelessness Chief Cause of Fire

"A further study of the fire loss of the state shows that eighty per cent of the loss is due to carelessness. Carelessness in what? Your answer probably would be 'general carelessness, bad housekeeping.' To be emphatic you must be specific. You must be prepared to show the particular form of carelessness, whether it be excessive accumulations of rubbish, faulty installations of heating equipment, defective chimneys, defective wiring or some one of the other causes classified as carelessness. A very careful study of many fires usually attributed to careless causes will often reveal a condition which could have been prevented if a fire chief had been clothed with the proper authority to order it corrected. By that I mean that a chief fails to conduct a careful and extensive investigation and for want of a better reason put down 'carelessness' in his report. I would suggest that you make a most intensive study of all your fires, noting not only the cause, but general conditions surrounding the fires in order that you may be acquainted with the particular causes that occur under similar conditions, and I am sure that you will be surprised at the results. I am sure that you will find that the so-called axiom 'No two fires are alike' is not an axiom after all, and that many fires resemble each other in cause and nature. Tabulate this information so that you can present it in tangible form to anyone who is interested. Armed with this information you are prepared to show that you are on your job and you can place the responsibility where it belongs.

"Another glance at the fire loss tables shows that sixty per cent of the fire loss is in mercantile and manufacturing establishments. Do you study such fires in your territory with a view to classifying the most hazardous commercial enterprises? What businesses have the most fires and what seems to be the causes of these fires? Should some industries be isolated? Is there a particular hazard in one line of industry for which some remedy should be found? Assemble data along these lines. It can be done easily in the small cities of the state, and with this information you will be fortified with another argument for the authority you feel that you should have.

Constant Study is Required

"I have enumerated only three or four ways you can adop to show in a concrete form where the trouble lies. The more you study the situation the more ways you will find to build up your side of the story. Talking to this one or that one is ineffective. We are living in an age when everyone must be shown. And you can not gain anything by telling people what you think; you must be prepared to show that you know what you are talking about.

"The reduction of the fire loss lies in the hands of the heads of the fire departments of this state. Alibis will not bring results. It is for us to do the work. If we have not sufficient authority now it is for us to seek more, to go after it in a sane, constructive manner. Do not keep your troubles to yourselves and in your own societies. You are the men who know fires and how they should be controlled, but you are not the men who make the laws. You are remiss in your duty if you do not prepare a substantial outline of the needs of your respective communities, backed by proper and convincing arguments, and go to your law makers and show them what you want. With a proper organization, and you seem to have one, it should be a simple matter for you to go to the legislature and demand that your position be recognized and that you be given the authority and responsibility to reduce the fire loss in your community. In the smaller cities and towns a chief, if he wants to, should be able to accomplish this alone. The larger the city the greater the problem, but in all large cities there are many organizations that will be glad of the opportunity to assist the fire chief in any constructive movement for the good of all. The fault is that you have not tried. It has been my experience in life that men of affairs impose the greatest confidence in the fire chief. Whenever he speaks they are ready to listen and when he presents a statement in constructive form they take heed. There is only one chief of department in every city and he is looked up to by all as the guardian of the safety of the inhabitants. He can have almost everything he wants if he asks for it, but he must ask for it in the right way. Prepare your case carefully, present it properly and you can rest assured that results will follow."

Chicago Fire Alarm Committee in New York

(*Continued from page* 1124)

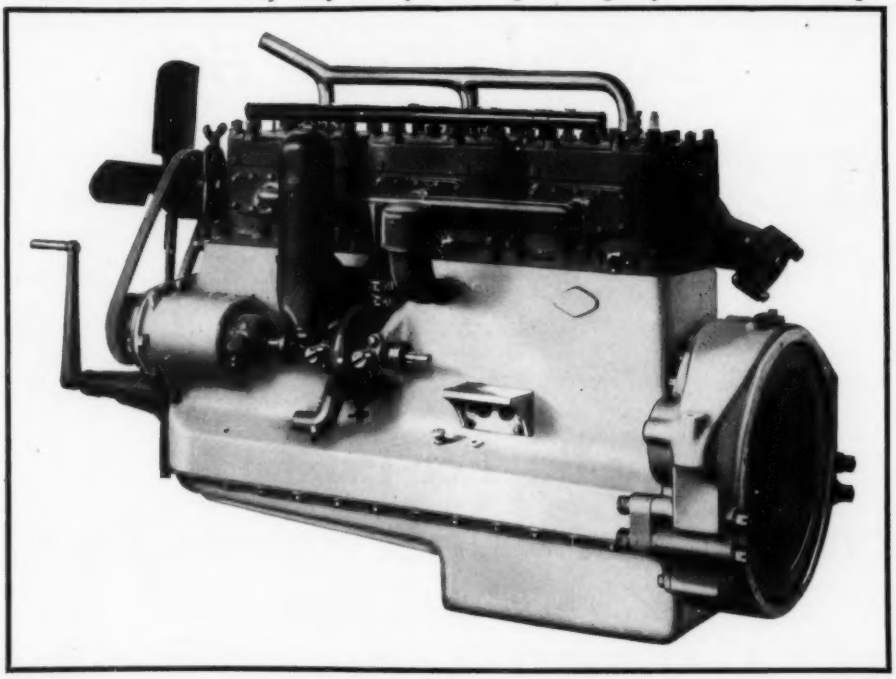
tral police telegraph bureau, the Chicagoans lunched at the Bankers' Club, as the guests of Honorary Deputy Fire Chief W. W. Cohen. From there they went to the fire alarm central station in Central Park.

In the afternoon, the aldermanic committee visited the Bronx Central fire alarm telegraph office in Bronx park and after that the unfinished fire alarm central station in Forest Park, Queens, which Commissioner Dorman said would be ready for service by next Spring.

Alderman Arvey explained to Fire Commissioner Dorman that Chicago with a population of three and one-half millions has only 2,600 fire alarm boxes, and that Mayor Thompson wants the most modern fire and police telegraph plant possible installed to the extent of at least 13,000 fire alarm boxes. He said the Chicago central fire alarm station was in a small corner of the City Hall and that it is proposed to isolate it, as the New York central stations are now isolated, so as to protect it from adjacent hazards. The technical and engineering phases of the New York fire alarm system were explained to the committee by Chief Valentine Fendrich, in charge of fire alarm service in this city.

In thanking Commissioner Dorman for the elaborate arrangements which were made for transporting the members of the committee, Alderman Arvey said: "We of Chicago have always looked upon New York as our big brother in the east. You have always received us with open arms and we have always found here a sympathy, a cordiality and a hospitality which made us feel quite at home. We feel certain that we shall receive the most useful knowledge and information here, and to say we thank you does not nearly tell you just how grateful we are."

Waukesha 120 *H. P. Heavy Duty Six Cylinder Engine designed for* 750 *Gallon Pumper*



Short Skirts vs Long

Long skirts are a joke—out of style of course and impractical too. Automobile engine design has advanced in practical improvements even faster than the short skirt. Restrained by limited production and heavy investments in manufacturing tools too many fire apparatus builders are still using "long skirt" engines. Progressive manufacturers are no longer building their own engines but purchasing them from wide awake engine builders who can keep their models in "short skirts" because larger production and research work make it possible for them to keep up to date.

Waukesha "Ricardo Head" engines are built in two sizes for Fire Pumper Service. One for 500, *the other for* 750 *gallon capacity pumps. These engines have passed the Underwriter's Tests all over the country and proved their unquestioned stamina in Fire Service. They are standard equipment in cities like Milwaukee, which builds its own apparatus. They are most up-to-date in construction, having Girder Type Crankcases,* 3½ *inch crankshafts, arched bearing carriers, oil filtering system and every known life increasing feature that hundreds of thousands of miles in hundreds of heavy high speed buses have suggested in their basic design. Write for Bulletin* 592 *which tells all about them.*

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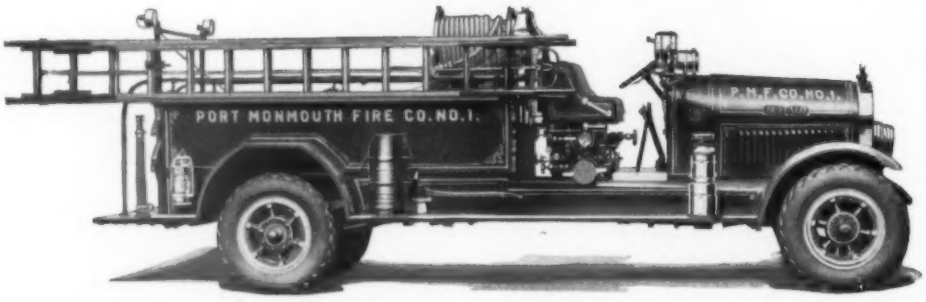

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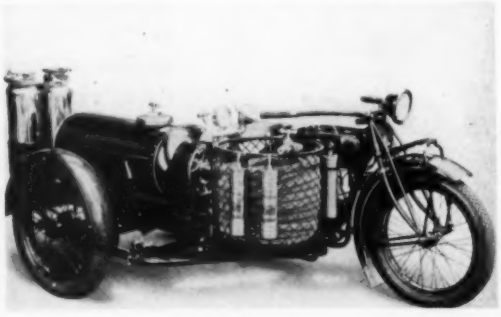

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OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

MORRISTOWN VOLUNTEER FIREMEN HAVE EFFICIENT ORGANIZATION

Description of Apparatus and Equipment of the Six Companies—Type of Property to be Protected and Aid Furnished by Water Co.

By HENRY W. PILCH

WHATEVER may be said concerning the comparative merits of the paid and the volunteer department, there is one volunteer organization that has a high standard. The fire department of Morristown, N. J., is indeed exceptional, and is an example of what good management, coupled with an active interest on the part of the members and the whole-hearted backing of the local administration can do.

Chief John J. Cullinan, Morristown, N. J.

Morristown is situated about thirty miles west of New York on the Delaware, Lackawanna and Western Railroad, and is the county seat of Morris County. The town is almost entirely residential in character, and there are located many of the large estates and palatial homes of some of the most wealthy citizens in the metropolitan district. In addition to the many fine residences and their outbuildings, the town contains many fine public buildings, schools and hospitals, the most important, perhaps, from a fire protection standpoint, many famous relics of revolutionary days, such as Washington's headquarters. Such a loss would be inestimable.

Six Companies in Department

The Morristown department consists of six companies, as follows: Washington Engine Company No. 1, Humane Engine Company No. 2, Independent Hose Company, First Ward Hose Company, Resolute Hook and Ladder Company, and a Board of Fire Wardens.

The equipment of Washington Engine Company consists of a 1000-gallon Ahrens-Fox pumper carrying 1200 feet of 2½-inch hose. In addition, it carries a roof ladder and a small extension ladder on each side, two soda-acid extinguishers, two 1⅛-inch nozzles, one 1¼-inch nozzle, and a cellar pipe. Six-inch hard and four and one-half inch soft suction hose are used for drafting water.

Independent Hose Company is equipped with a 750-gallon Ahrens-Fox pumper with booster equipment. It carries 500 feet of 2½-inch hose and 500 feet of 1½-inch hose. Three small nozzles equipped with ⅞-inch tips are carried, and a 1¼-inch play pipe. Other equipment consists of two soda-acid extinguishers, two Foamite extinguishers, one Carpenter-lite, one Pyrene extinguisher and a mask. Independent Hose Company generally answers all stills.

Humane Engine Company No. 2 is also equipped with an Ahrens-Fox 750-gallon pumper of the latest type, equipped with balloon tires and disc wheels. It carries 1200 feet of 2½-inch hose, one 1¼-inch nozzle, one 1⅛-inch nozzle, one 1-inch nozzle, and one ⅞-inch nozzle. The apparatus is also equipped with side ladders, extinguishers and soft and hard suction.

Resolute Hook and Ladder Company possesses a Mack City Service Truck carrying one fifty-foot extension ladder, one thirty-five foot extension ladder, four twenty-five foot ladders, four twenty-foot ladders, one ten-foot straight ladder, one sixteen-foot scuttle-hole ladder, one sixteen-foot roof ladder, one sixteen-foot small extension ladder, one life net, two masks, twenty-four hooks, four three-gallon soda-acid extinguishers, two six-gallon soda-acid extinguishers, one Foamite extinguisher, two Pyrene extinguishers, wire cutters and life belts, lineman's belts, spurs, etc., three door-openers, three hay forks, hooks and shovels, roof-cutter, pull-down rope and chain, two crow bars, two Carpenter-lites, one small hand electric light, one Presto-lite tank and equipment, one cellar pipe and a complete deluge set.

Location of Companies

It might be well here to explain the location of the above companies. Morristown center consists of a large park, or green, about a block square. This is entirely surrounded by a broad street, on the far sides of which buildings stand facing the park. From this central section streets radiate in all directions like the spokes of a wheel. Washington Engine and Independent Hose are located on Market Street, a short distance southwest of the center. Humane Engine and Resolute Hook and Ladder, as well as the Board of Fire Wardens, are located on Speedwell Avenue, almost at the north corner of the center.

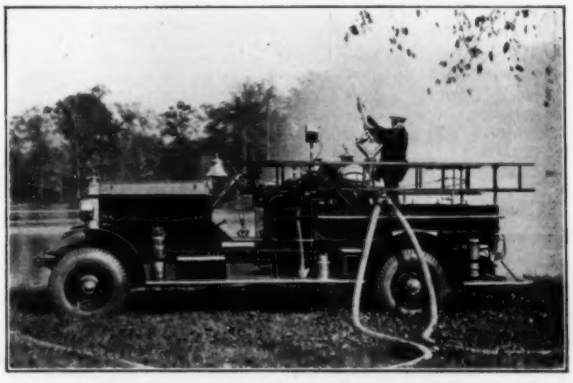
First Ward Hose Company

The First Ward Hose Company, which is located quite a distance east of the center on Morris Avenue, possesses an Ahrens-Fox hose wagon with balloon tires and disc wheels. It carries 1200 feet of 2½-inch hose, nozzles, two soda-acid extinguishers, two Foamite extinguishers, one Pyrene extinguisher, one straight side ladder, one side extension ladder, and a forty-gallon chemical tank, which, when the supply of chemical is exhausted may be connected to a hydrant and used as a booster. Finally, there is mounted upon the body a Morse Invincible deck pipe.

The Board of Fire Wardens apparatus is of White design, fitted with seats on each side, and carries ropes for holding back crowds, salvage equipment and other miscellaneous paraphernalia.

Description of Fire Alarm System

The Morristown fire alarm equipment consists of a Gamewell system employing thirty-six street boxes and twenty-four phantom boxes. Eighteen of these are of the old Gardiner type, having been in service from twenty-five to thirty-two years. As fast as possible these are being replaced with non-interfering boxes of the latest type. During the present year five new boxes have been added, all boxes and supports have been painted, and all but four designated by a red globe. There is either a box or a phantom number for every school and hospital. In addition, a few boxes have been moved in accordance with recommendations of the fire underwriters. In connection with placing additional boxes, five thousand five hundred and fifty feet of aerial wire was used, and three thousand three hundred fifty feet of No. 2 conductor lead cable was drawn in ducts of the telephone company subway on Morris Street and Speedwell Avenue to eliminate the hazards of fire wires in telephone cables. There still exists thirteen thousand five hundred feet of fire alarm circuit in telephone cables in sections where there are no available ducts for a separate fire cable.



Apparatus of First Ward Hose Company

(To be continued)

INDUSTRIAL PLANT PROTECTION

PROBLEM OF FIRE PREVENTION IN SMALL INDUSTRIAL PLANTS

Many Night Glares of Fire Indicate that Many Chiefs Have Believed that they Could Cope with Fire Problem—Should do Prevention Work

By W. W. STEPHEN,
Chief of Fire Department, Southern Manganese Corporation, Anniston, Ala.*

INDUSTRIAL plants employing five hundred or less men may be grouped for convenience, in three classes—plants that have no apparatus or fire fighting organization; plants that have a certain amount of fire apparatus, but no men trained to operate or maintain it; plants that have adequate fire apparatus, with a brigade of employees trained to use it.

W. W. Stephen

With reference to the first, there is not much to be said. The men in charge of these plants proceed on the assumption, if they ever give thought to the matter, that they will never have a fire, that their municipal department can fully safeguard them or that their insurance policies can cover any loss they may sustain.

All of these are fallacies, and it has been the writer's unpleasant experience, while connected with municipal fire department work, to see their refutation written on the red glare of many midnight skies, or in pillars of smoke in the day time.

The fire departments of our cities are fast working and powerful machines and their chiefs are efficient, fearless and quick-thinking. But they are sometimes confronted by circumstances with which it is difficult to cope. Sleeping watchmen, alarm boxes too far away and delayed or faulty telephone calls may not reach them. Long runs, trains at grade crossings or heavy traffic may block or hinder them, and when the firemen arrive they may find the plant situated in a neighborhood that is supplied by a small water main from which there is not enough volume available to stop the fire.

Loss Can Not Be Replaced

Your insurance agent may rebuild your plant, but he cannot replace the production you have lost, the wageless period your employees have had to endure, and most of all, he cannot mend the confidence that your customers have lost forever in your ability to supply them an uninterrupted delivery of your product.

The plant executives in the second class generally have good intentions when they buy fire apparatus, but do not realize that unless it is constantly supervised its value may be doubtful in time of need.

Uncharged extinguishers, bad hose, blocked hydrants and poor house keeping have been the cause of many smoking ash heaps where once busy factories stood.

There are many smaller industrial corporations in our country that may be enumerated in class three, that are partly responsible for the fact that our annual fire loss is not much greater than its present figure.

First Line of Defense

With regard to plant apparatus the first line of defense is composed of hand appliances, water, barrels and buckets and various types of extinguishers for certain risks, such as small carbon tetra-chloride pumps for electrical apparatus, soda-acid tanks for free burning fires and foam tanks for flamable liquids.

Fire extinguishers must be kept in places that are accessible and familiar to plant employees and their charges tested at least once every month. This may be done by unscrewing the tank top and dropping a drop from the acid bottle or aluminum sulphate canister into the soda solution and noting whether this produces the proper fizzing reaction.

Thirty or forty gallon extinguisher tanks, mounted on wheels, are of considerable value in protecting plant property. One major consideration in the purchase of these is not to get and try to use the narrow gauge indoor type for outdoor and yard work, and in their operation not to pull them backward, which will unscrew the nuts on the axle spindles and make the wheels come off.

Two and one-half-inch rubber lined cotton covered fire hose, with play pipes attached, connected and folded on shelves in hose houses built over plant fire hydrants supplied by ADEQUATE WATER MAINS is the final line of defense and the heavy battle fleet of industrial plant fire protection. These hose lines MUST be kept ready for use as sacredly as the bore of an enlisted man's rifle is kept shining, no matter what condition or vicissitude of plant operation may betide, or what other matters be pressing.

Matter of Fire Hose

The domestic use of fire hose, except in cases that are as much an emergency as a fire would be, should be avoided like a pestilence, and any hose used for any purpose should be drained, washed and dried before being put in service again. And furthermore, not only keep the hose in proper condition and connected but keep ENOUGH of it connected. You will find many sources of advice about how much. Our own conclusion, from the red light of grim experience, is that every connected line should be long enough to overlap the next hydrant by two sections or one hundred feet.

In this way you can instantly reach every spot in your plant with at least two lines. With the fire near a hydrant it is possible to run out a line and then double back with it in less time than most amateur firemen can break a coupling to shorten the line.

It is not economy to buy cheap fire hose. Ask your city fire chief what he considers best and then buy that brand, regardless of what it costs.

Reserve hose may be carried on a hand reel, or on a light motor fire apparatus, which in many cases it is advantageous to install.

It may be also said that a sprinkler system, properly constructed and maintained, with an adequate water supply, will go far to eliminate the hazard of fire loss in any ordinary plant, especially at times when company employees are absent.

Fire Brigade of Men at Plant

A fire brigade of employees, preferably commanded by men that are executives and foremen, should be organized and drilled in every plant that has any fire apparatus.

This organization should be in charge of one man who is responsible for its performance, for the condition of the apparatus and for a system of plant inspections and inspection records that will insure good housekeeping and the elimination of fire breeding causes.

The training of fire brigades may vary in elaborateness from the simple laying of hose lines to a complete drill school course.

The placing of ladders, the direction of fire streams, the use of 1½-inch hose to reduce water damage by coupling the small line to the tip of a controlling nozzle on a 2½-inch line, the ventilation of smoke charged buildings and the overhauling of a fire to insure that it has been completely extinguished are all items that are of value to be considered.

Plant watchmen should in all cases be capable men and not pensioners, and their effectiveness is always much increased by a plant fire alarm system, when one is practical, that will enable them to quickly report the discovery of fire.

In concluding these rather disconnected observations we would

(Continued on page 1142)

*From paper read at Southern States Safety Conference, Birmingham, Ala.

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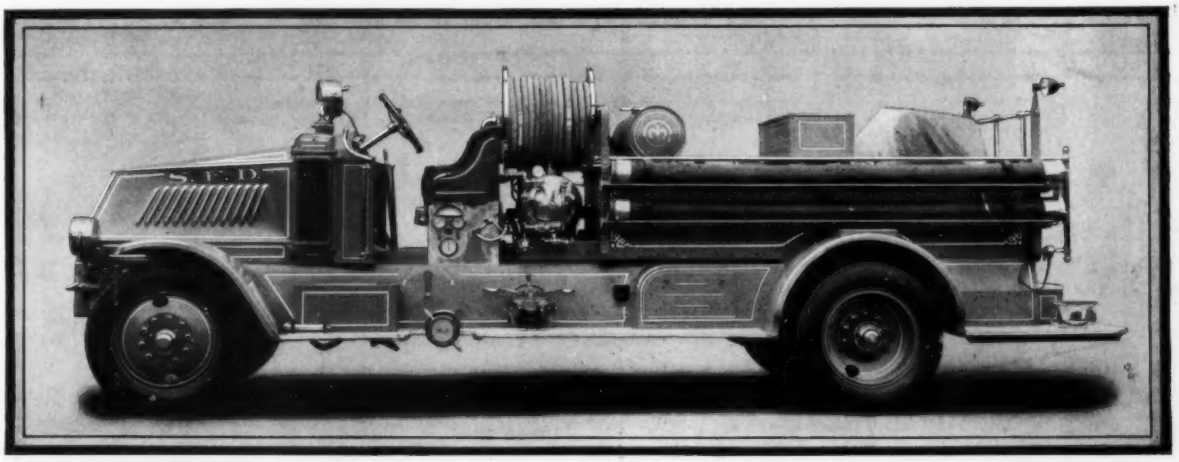

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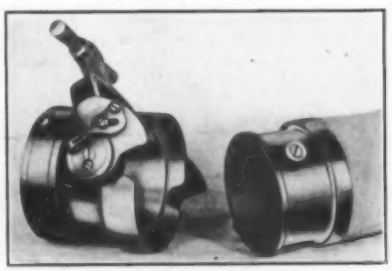

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FIRE DEPARTMENT ACTIVITIES

Monroeville, Ohio, Installs Siren—A new siren has been installed in Monroeville, Ohio.

Hutchinson, Minn., to Purchase Apparatus—A pumper will be purchased by Hutchinison, Minn.

Berlin, Wis., to Purchase Siren—A siren will be purchased by Berlin, Wis.

Paid Chief Recommended for Roundup, Mont.—A paid chief was recommended for Roundup, Mont.

Manteca, Cal., Purchases Fire Apparatus—Manteca, Cal., has purchased fire apparatus at a cost of $10,700.

Camden County, N. J., Adds New Members—Two new fire companies have been added to the membership of the Camden County Firemen's Association of New Jersey.

Marlton, Pa., Receives New Pumper—Marlton, Pa., has received its new pumper replacing the one that was wrecked in an accident a short time ago.

Duluth, Minn., Salvage Corps Receives New Truck.—A new salvage corps truck has been delivered to the salvage department of Duluth, Minn.

Ogden, Utah, to Have New Fire Station.—A site has been selected in Ogden, Utah, upon which will be erected a new fire station.

Wants Paid Department in San Leandro, Cal.—Chief George Bormann is advocating a paid fire department for San Leandro, Cal.

Three Rivers, Mich. to Purchase Apparatus.—The purchase of fire apparatus estimated to cost $13,000 has been authorized in Three Rivers, Mich.

Connellsville, Pa., Orders Fire Apparatus.—A combination chemical and pumper has been ordered for Connellsville, Pa. Delivery is expected early in November.

Chippewa Township, Pa., to Have Department.—A fire department will be formed for Chippewa township in Pennsylvania.

Cresson Pa., Chief Injured by Hose.—Chief Robert J. Kenny of Cresson, Pa., was injured by a fire nozzle during a practice drill.

Bryte, Cal., to Organize Fire Department—A meeting was held in Bryte, Cal., to consider the formation of a fire department.

Chief Hosutt of La Salle, Ill., Has Auto.—Chief Hosutt of La Salle, Ill., now has a red painted automobile in which to respond to fires.

Geneva, N. Y., Has New Ladder Truck—Geneva, N. Y. has a new $16,000 ladder truck and replaces the apparatus that was condemned by the Common Council.

Bennington, N. Y., to Have New Fire Alarm—A new fire alarm system costing about $12,500 is being installed in Bennington, N. Y.

St. Louis Fire Station Damaged by Storm.—Fire station No. 8 in St. Louis, Mo., was damaged by the tornado to a greater extent than was first believed. A new station may be erected to replace it.

E. Orange, N. J., May Purchase Ladder Truck—A recommendation has been made that East Orange, N. J., purchase a new seventy-five foot ladder truck to replace the one that was damaged in an accident. The new truck will cost about $16,000.

Firemen Save Man Marooned by Rising Waters.—Rumford, Me., firemen saved a man marooned on a rock in the Androscoggin River by rapidly rising waters caused by the opening of headgates in the dam.

Locomotive Used to Fight Bangor, Me., Fire.—Water from a locomotive was used to fight a fire in Bangor, Me. The firemen pumped the water from the boiler of the locomotive to a grain warehouse where there was no available supply of water.

Survey Made of Providence, R. I., Department.—George W. Booth, chief engineer of the National Board of Fire Underwriters is making a survey of the Providence, R. I., fire department.

Maine Firemen Join in Fighting Fire.—Firemen from Gray, Portland, Auburn, Lewiston, Falmouth and Cumberland, Me., joined in fighting a fire that occurred in a barn in Gray. They prevented the fire from spreading to nearby buildings.

Firemen Injured in Chelsea, Mass., Fire.—Four firemen were injured while fighting a fire that caused $50,000 damage in a factory in Chelsea, Mass. Chief David M. Hudson was knocked down by a bursting hose.

Dr. Kilmer Made Honorary Chief.—Dr. T. W. Kilmer, a practicing physician of New York city was made honorary chief of the Hempstead, N. Y., fire department. He resides in Hempstead.

Milwaukee to Have Bungalow Fire Station.—Contracts have been let for the erection of a bungalow fire station in Milwaukee, Wis. It is estimated that the building will cost $29,000 when completed.

Allegheny County, Pa., Firemen to Meet in Turtle Creek—The 1928 convention of the Allegheny County Volunteer Firemen's Association will be held in Turtle Creek, Pa. Chief Kenyon of Turtle Creek is making plans for the gathering.

Fire Department Presents Town With Apparatus—Chief Harry J. Connell of Hudson, N. H., presented the town with a Chevrolet Forest Fire truck equipped with two forty gallon water tanks and six five-gallon hand tanks.

Pleasantville, N. Y., Opens New Fire Station—A two-story fire station was officially opened in Pleasantville, N. Y. Members of the company were on hand to explain to the visitors, the fine appointments of the station.

Toledo, Ohio to Have Five New Chiefs—Effective from December 1, Toledo, Ohio will have five new district chiefs at a salary of $263.50 a month. The purchase of two new chief's automobiles at a cost of $4,750 was approved by the council.

Athens, Tex., Has New Fire Station—A two-story brick fire station has been erected in Athens, Tex. The upper floor consists of four rooms, bath and hall and the lower floor is designed for the fire apparatus.

Fire Destroyed Famous German Castle.—Ten persons lost their lives in a fire which destroyed the castle of Affing near Augsburg, Germany. The castle was more than 250 years old and was known to many tourists. Many of the guests who were at a party in the castle, at the time the fire occurred, were injured.

Boone, Ia., to Repair Toys for Children.—Chief J. J. Murphy of Boone, Ia., stated that old toys stored in attics constituted a fire hazard and he asked that the toys be brought to the fire station so that the firemen will be able to repaint them and distribute the toys to the poor children at Christmas time.

Sacramento, Cal., Dyers Confer With Chief—The cleaners and dyers of Sacramento, Cal., had a conference with the fire chiefs in Sacramento with reference to the new state law that applies to cleaning establishments. State Fire Marshal Jay W. Stevens was present.

Pittsburgh, Pa., Has Visiting Day—As a part of the Fire Prevention Week celebration, Pittsburgh, Pa., set aside one day that the public could visit any of the fifty-four fire stations in the city. Firemen were on hand to explain the operation of the equipment.

Bellingham Host to Canadian Firemen.—The firemen's union of Bellingham, Wash., was host to visting firemen from Vancouver, B. C., New Westminster, Point Grey and South Vancouver, Canada, at a good fellowship dinner. Chief Frank Stearns spoke to the men and stressed the importance of good will.

Waterville, Me., Has New Fire Apparatus.—Through a gift by Walter B. Reid, mayor of Portland, Me., Waterville, Me., has a Pierce-Arrow truck on which was mounted a fire apparatus body. The apparatus is equipped with a 35-gallon chemical tank and the necessary equipment.

Wants Anti-Shingle Ordinance for Ft. Dodge, Ia.—Chief H. J. Callahan recommended that the city pass an ordinance prohibiting the use of wooden shingles in Fort Dodge, Ia. Chief Callahan said, "The amount of soft coal that is burned in Fort Dodge, is such that we cannot do away with sparks from chimneys or prevent chimney fires. The logical thing to do is to require that roofs be safe from fire."

Topeka, Kans., Has New Headquarters.—The new fire headquarters erected in Topeka, Kans., is now ready for occupancy. The building was erected at a cost of $90,000. Offices for the chiefs and the clerks as well as dormitories, showers and a kitchen for the men are located on the second floor. A sixty-five feet drill tower has been erected in the rear of the station. The fire alarm equipment has been placed in a room on the south side of the station.

PROPOSED IMPROVEMENTS

Seattle, King Co., Wash.—Deeds to two lots on Second Ave. were accepted by City Council and plans order for the new headquarters building for the fire department. G. M. Mantor, Chief of Fire Dept.

Fremont, Sandusky Co., Ohio—It is being urged that apparatus be purchased for the fire department.

Burns, Harney Co., Ore.—City Council considering the purchase of a siren for the fire department.

Windsor, Ont., Can.—City Council recommended an election some time in December to vote on the proposed construction of a new central fire station on the site of the old building, East Pitte Street, according to reports.

Spry, (Mail Dallastown) York, Co., Penn.—New fire station to be erected here for the Good Will Fire Co. at cost of $12,000.

Portland, Ionia Co., Mich.—Reports state village is to construct a fire station.

Oakwood, Suburb of Kalamazoo, Kalamazoo Co., Mich.—Meeting held here recently for the purpose of organizing a fire department in this community.

Lockport, Will Co., Ill.—Funds being raised for the purchase of a piece of apparatus for the fire department, according to reports.

Frostburg, Allegany Co., Md.—Fire department of this city and surrounding suburban towns considering the purchase of a piece of fire apparatus for rural protection.

Washington, Warren Co., N. J.—Reports state that Vernon Oakes, Chief of Fire Dept., is circulating a petition for the installation of a fire alarm system here.

Albany, Albany Co., N. Y.—Delaware Ave. Improvement Association to urge the purchase of a pumper for their section.

Buena Park, Orange Co., Calif.—Funds raised by the fire department for the purchase of equipment.

Canonsburg, Washington Co., Penn.—Canonsburg Volunteer Fire Dept. has filed petition with court for incorporation.

Bristol, Bucks Co., Penn.—A petition was signed asking Council to approve a volunteer fire company to be known as Bristol Consolidated Fire Co.

Industrial Fire Prevention

(*Continued from page* 1138)

say that proper fire protection and prevention is dependent upon absolute and never ending vigilance, and may certainly be secured in any small industrial plant by selecting one capable minor executive, delegating to him the supervision of fire apparatus, brigade training and fire prevention, which must be carried out as faithfully as any other phase of operation or production.

The International Association of Fire Chiefs has designated the year 1927 as Fire Prevention Year, and are making a mighty and intensive campaign to reduce the loss of this present year to a figure less than the staggering amount that has annually faced us.

I appeal to you to do your part, and to hold your sector, however small, in the far flung battle line we are maintaining against the red destroyer.

Visiting "Fire Chief" Arrested

Racine, Wis., will consider twice before it lavishes its hospitality on a visiting "fire chief." The fire department has had an experience that will make them shy clear of visiting fire officials.

Quite recently, the men of the central fire station looked up to see a tall, affable stranger drive up to the station. He was Hans Homenson, but he introduced himself as chief of the Seattle, Wash., department. The men were pleased that they should be honored by such a prominent chief and they took him on a tour of inspection to all of the fire stations. They even did more than that. A blue-coated delegation took him on a tour to all points of interest in the city.

But the visitor explained that he did not want to be of any trouble to the men and that he came to Racine in an unofficial capacity. He insisted on paying for whatever entertaining was done. Soon his funds ran low. However, there were many firemen to identify him as the Seattle chief so that he could cash some checks. The checks were worthless.

From Racine, the visiting chief tried other fields. He was arrested in Detroit when he tried to play the same role. The imposter comes from Waterville, Wash., a small village. He worked the story successfully in Kenosha before he was caught.

Visiting chiefs will not be received so readily in Racine or even in Kenosha.

CONVENTION DATES

May 7-10, 1928—NATIONAL FIRE PROTECTION ASSOCIATION (International). 32nd Annual Meeting, Atlantic City, N. J. Secretary, Franklin H. Wentworth, 40 Central Street, Boston, Mass.

Sept. 18-19, 1928—IOWA FIREMEN'S ASSOCIATION. 51st Annual Convention, Independence, Ia. Secretary, E. E. Parsons, Marion, La.

ARKANSAS FIREMEN CONSIDER LIVE TOPICS AT CONVENTION

Team from Little Rock Gave Demonstration in Fire-Fighting and Rescue Work—Number of Interesting Fire Papers Presented

DEMONSTRATIONS, interesting talks, and a large attendance contributed to the success of the Arkansas State Firemen's Association convention held in Russellville. Chief Butler and Assistant Chief Hickman had arranged every detail that would add to the better enjoyment of the gathering.

Clarence Goldsmith, assistant chief engineer of the National Board of Fire Underwriters, spoke on the requirements of a modern fire department.

Fire-fighting and rescue work was demonstrated by a crew from Little Rock rushing up to a supposedly burning four story building to rescue a girl who was trapped at the third floor. Ladders were raised, and the members showed their skill as though they were at a real fire. The team was in charge of Assistant Chief Charles A. Burns.

George D. Suter, engineer of the Arkansas Fire Prevention Bureau, gave a talk and a demonstration on nozzles, hose lines and fire streams. The men were greatly interested in this part of the program.

Other talks presented were as follows: A. D. DuLaney, deputy insurance commissioner and state fire marshal, spoke on the duties of the fire marshal's office and means of doing fire prevention work. Vernon L. Thompson, of the Home Insurance Company, spoke on "Fire Prevention—Whose Problem is it?" Besides addressing the convention on the subject of fire prevention, H. B. Savage, of the Division of Conservation of the Arkansas Fire Prevention Bureau, spoke before the pupils and teachers of the Arkansas Technical School and the public schools. On his tour to the public schools he was accompanied by Chief Hafer of Little Rock and Chief John Grant of DeQueen.

The main entertaining feature of the convention was the banquet held in the evening. The motion picture theatres of the city were thrown open to the visiting firemen.

DeQueen was selected as the next convention city. Pink Dean of Fort Smith was elected president, C. W. Whanye, England, first vice president, F. M. Brock of Bentonville, second vice president, C. W. Crippen, Fayetteville, third vice president and the following were elected trustees: Jess L. Butler, Russellville; Joe A. Morris, Eureka Springs. Harry D. Compton of Little Rock was re-elected secretary for the third time. He didn't care to take the office again but the men refused to listen to his declinations.

Kansas Chiefs Hold Convention

The Kansas State Association of Fire Chiefs held their twelfth annual meeting in Kansas City, Kans., at the same time that the Kansas State Firemen's Association held their forty-first annual gathering and the Women's Auxiliary of the firemen's organization held their second annual meeting.

The convention adjourned on October 19 after selecting Liberal as the 1928 convention city.

To facilitate the selection of a place for the annual meeting, the entire state of Kansas has been divided into four sections. The northeast district is No. 1, the southwest is No. 2 and so on. A meeting has been held in No. 1 district, the 1928 convention goes to the No. 2 district and the 1929 gathering will have to go to a city in the No. 3 area.

It is expected that the gathering in Liberal will be held at the time of the open season for prairie chickens so that those attending will have an opportunity to arrange hunting parties.

Rensselaer, N. Y., to Purchase Apparatus—Bids have been opened in Rensselaer, N. Y., to supply two combination chemical and hose trucks. It is believed that the apparatus will cost about $20,000.

Since 1868 the products of Union Water Meter Company have been regarded generally as the standard of perfection. Constructed on sound, scientific principles, improved with the advance of time, the combined experience of nearly sixty years stands behind these manufactured specialties.

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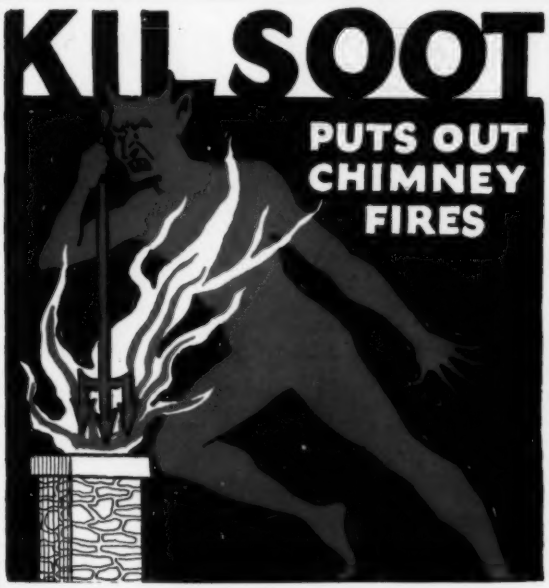

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These sales make profits which are often used for firemen's relief work.

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FALSE ALARMS

—Drawing by "Art" Espey

FIREMAN "TAKING A PLUG"
(pen sketch from the still life)

ENTIRELY TOO MUCH

The movie exhibitor had just insured his theatre against fire. As he signed his name he turned to the insurance agent and asked:

"What would I get if my theatre was to burn down tomorrow?"

"Oh, I should say about ten years," replied the insurance man nonchalantly.

PLAYED SAFE

In a western city, the fire apparatus was still being hauled to the fire by a team of horses of the type that is seen no more in the larger cities. The driver of the apparatus was particularly fond of the horses and so when one of them took sick, he went with the veterinary's prescription to the drug store. He also had a prescription that his wife had given him when he had left the house in the morning.

As the druggist was preparing to wrap up the bottles, the fireman said, "Now please write plain which of them bottles is for my wife and which is for the horse. I don't want nothing to happen to that horse."

FAR FROM PITY

McCarthy was brought before the chief on the charge of drunkenness. For McCarthy to be wobbly on his feet was not an uncommon thing, but he apparently carried the thing just a little too far when he reported for work without the effect of the previous spree working off.

"See here, McCarthy," said the chief angrily, "I have no sympathy for a man who gets drunk every night."

"Well chief, hic, I guess that a man that can go on a, hic, drunk every night don' need no sympathy."

NOSE FOR NEWS

Editor to Hopeful Writer: I am sorry but that story you sent in is not suitable—it has no news in it—every fire department has an efficient hard working officer at its head and every company works hard to put out a fire.

A story must have news. Now if a man tries to beat his wife, that isn't new, but if he succeeds, it's another story.

MERELY THINKING

"Bill, I've been thinking of going to the firemen s convention next week. Do you know how much it will cost me?"

"Nothing."

"You mean the trip will cost me nothing, Bill?"

"Well it won't cost you anything to think about going."

MAGIC OF THE ART

The Smithtown Volunteer Fire Department was holding their semi-annual smoker at the village hall. Apparently it was a success. A goodly crowd was there, the air was so thick with smoke that it could be cut with a knife and some of the firemen were waiting their turn to perform.

The chairman of the evening approached a firemen who was due to give an exhibition of magic.

"I am sorry but we won't be able to call you for your act of magic because we have too many things on the program. I hope that you won't feel put out about it."

"I am put out," said the firemen. "I am out about five dollars."

"What do you mean?"

"Well I smuggled a five dollar bill into the pocket of a man out there that I was going to get back by magic, and I haven't got a chance now to get it back."

Go the wrong way on a one-way street with fire apparatus heading in the opposite direction and you will find yourself at the wrong-end of a one-way argument with a traffic cop.

The telephone is such a wonderful instrument for the fire department. It connects the department with such a large number of kitchen and bon fires.

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An enjoyable time was had at the clam bake of the Independent Hose Company of Ossining, N. Y.—but ten members of the company were deprived of the entertainment. They composed a guard of honor to watch over the fire truck, the possession of which the company was celebrating. A rival company, like an invading army, was trying to obtain possession of the new pumper that the town had purchased. The Independents fought with the steamer company, but now that they won their point by the sheer force of numbers, they organized to maintain their rights. Men armed with bats, clubs and with other available weapons, were stationed at the house to meet any onslaught of the steamer company. "Let them come," shouted the Independents, but none came.

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The Angle Nozzle is made to fit all types of Water and Chemical lines.

are now in use in all the leading Fire Departments in this country, and in foreign countries. Many Cities and Towns are placing repeat orders. CITY OF BOSTON after trying out a dozen in various parts of the city under different conditions are so pleased with this nozzle that we recently received a repeat order.

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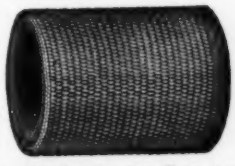

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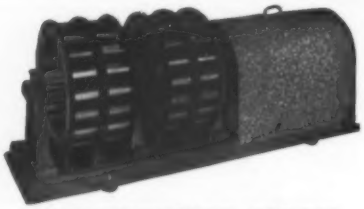

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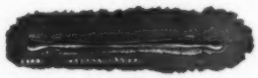

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1 Acid Siphons.
2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Theromostatic.
10 Asbestos, Clothing
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal.
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Cable & Wire, Fire Alarm.
23 Caps, Firemen's.
24 Chains, Non-Skid, Fire Apparatus.
25 Chassis for Fire Apparatus.
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33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Fire, Soda & Acid.
35 Extinguishers, Fire, Tetrachloride.
36 Extinguishers, Fire, Foam.
37 Extinguishers, Fire, Powder
38 Fire Boat Nozzle Equipment.
39 Fire Department Supplies, General.
40 Fire Drills & Organizations.
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42 Fire Alarm Posts.
43 Fire Escapes, Portable.
44 Fire Escapes, Rigid.
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46 Flare Lights.
47 Flashlights, Hand.
48 Foam Liquid for Extinguishers.
49 Gas Masks and Respirators.
50 Gas & Smoke Helmets.
51 Gasoline & Oil Handling Equipment.
52 Goggles, Firemen's.
53 Helmets, Metal, etc.
54 Hose Carts, Reels & Racks.

Whenever you are in the market for new equipment you naturally want to get complete information from all reliable manufacturers before you place the orders for your department.

This page is a feature of every issue to make it convenient for you to get all this information without cost to you and without placing you under any obligation whatever to buy from any particular manufacturer.

You only have to run down the list of equipment and mail in the coupon below with your name and address and the numbers that indicate what you are interested in and we will then have the leading manufacturers of this equipment send you complete information direct—so why not let us help you get what you want? We are glad to be of service. Help yourself.

For Information on Any Equipment Not Listed, Write on This Page or Use Separate Sheet.

55 Hose Clamps.
56 Hose Fire.
57 Hose, Chemical.
58 Hose Holders.
59 Hose Jackets.
60 Hose Standardization Tools.
61 Hydrant Draining Pumps.
62 Hydrants, Fire.
63 Jacks for Fire Trucks.
64 Jacks, Shoring & Prying.
65 Ladders, Fire.
66 Lightning Arresters.
67 Motorcycles, Fire Dept. Equipped.
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74 Pumping Cars, Standard.
75 Pumping Cars, Foam.
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77 Pumps, Fire Service, Stationary.
78 Pumps, Portable, for Fire Protection.
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80 Relief Valves.
81 Reviving Apparatus, Oxygen.
82 Rubber Clothing.
83 Searchlights.
84 Shingles, Fire Retardant.
85 Shirts, Firemen's Special.
86 Sirens, Apparatus & Chiefs' Cars.
87 Sliding Poles.
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89 Spark Plugs, Fire Apparatus & Motorcycles.
90 Squad and other Auxiliary Cars.
91 Sprinkler Head Shut-Offs.
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93 Sprinkler Systems, Automatic, Foam.
94 Sprinkler Systems, Automatic Water.
95 Starters, Fire Apparatus, Automatic, Air.
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97 Tarpaulins & Fire Blankets.
98 Tetrachloride Chemicals.
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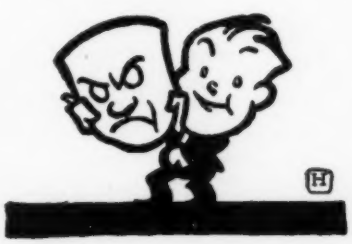

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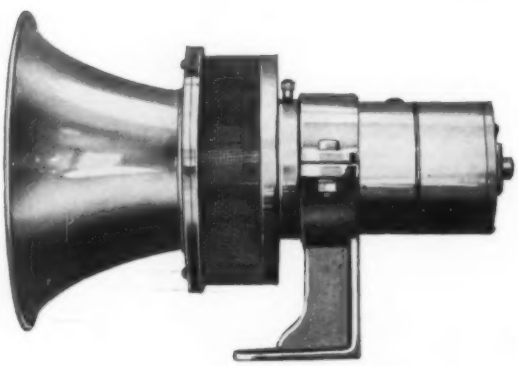

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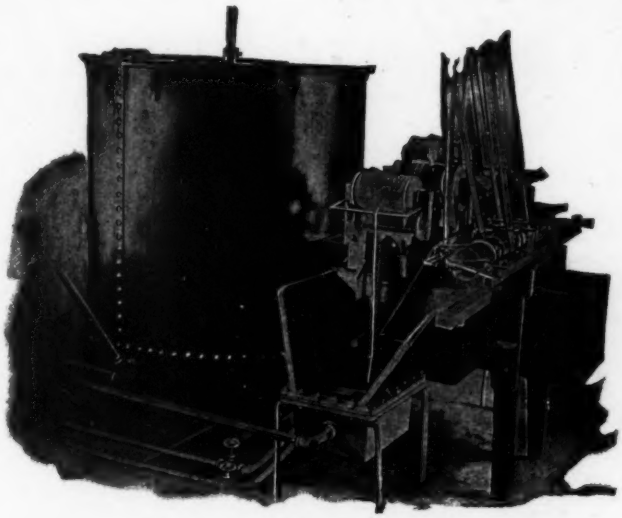

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